Marine Corps Gazette

JUNE 1959
•
FORTY CENTS

A FLEET OF CAT DW21s RUSHES A 12,000-FT. B-52 RUNWAY

The throaty roar of 20 fast-stepping Caterpillar DW21s mingled with the whine of B-52 Strategic Air Command bombers at Beale Air Force Base, Marysville, Calif. They were building a 12,000-foot runway for the big birds. The DW21s loaded, hauled and dumped rock and clay 18 hours a day. Contractors were: R. A. Westbrook, Inc., Morrison-Knudsen Co., Inc., and H. Earle Parker, Inc.

And now the DW21 is more powerful, more efficient, and more productive than ever. A new model (Series G) is available with a new 345 HP (maximum output) Super-Turbo Engine. It hits top speeds of 22.6 MPH quickly for high-speed hauling. Matched to the Cat LOWBOWL Scraper it gives you fast loading of 19.5 cu. yd. struck, 27 heaped.

The Super-Turbo Engine incorporates a new Air Induction System, unique in diesel engine turbocharging. The new engine packs more air, aided by twin dry-type air cleaners and larger manifolds and an After-Cooler. In addition, a Pressure Ratio Control System broadens the performance of the Turbocharger over a complete range of operating speeds.

Today the Caterpillar DW21 is the most economical buy in its class on the market. It is faster and stronger. And with the new exclusive Torsionflex seat (optional), operator efficiency is greatly increased. See it soon. The sooner you get the powerful new DW21 in action, the sooner you'll start getting bigger production on your job.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

CATERPILLAR

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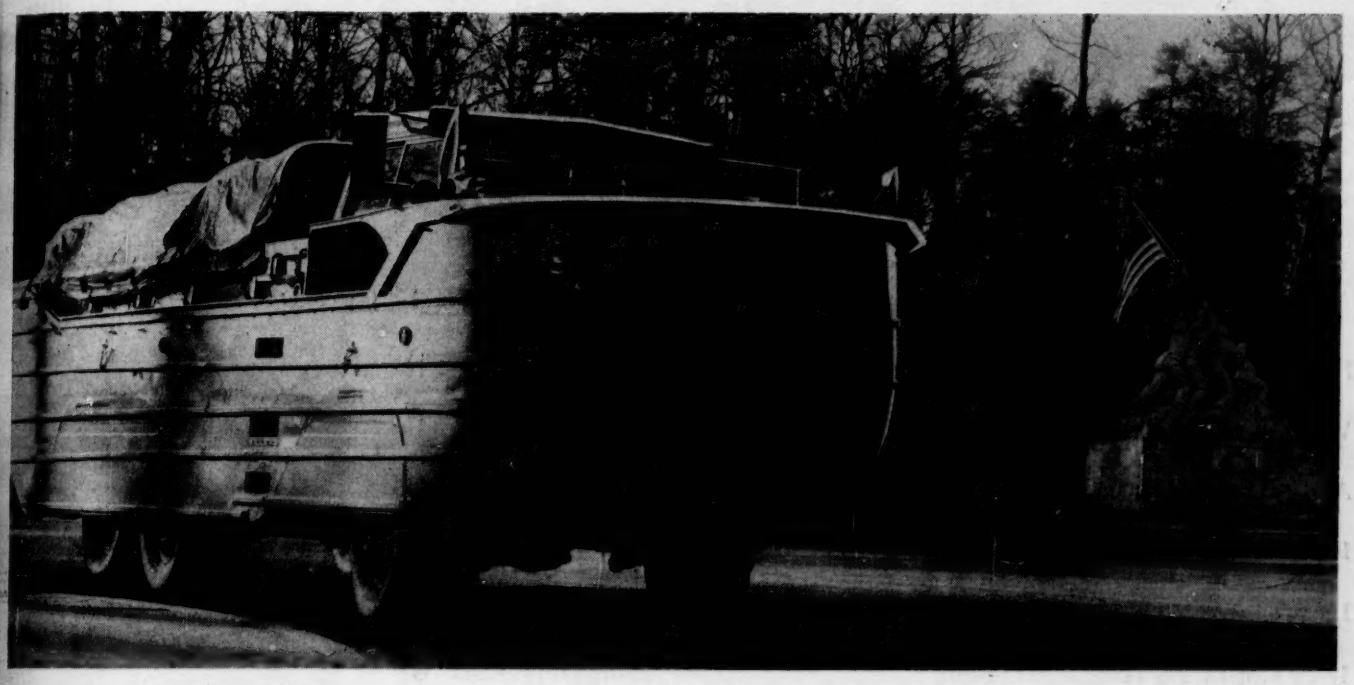
SUPER-TURBO POWER
—First in the Industry
—First in Performance

SUPER TRIP FOR THE SUPERDUCK



. . . VIRGINIA to CALIFORNIA

The duck, officially designated as SUPERDUCK, rolls through the gates of Marine Corps Schools, Quantico, Virginia, much to the amazement of MP's, and points its nose toward the blue Pacific. The SUPERDUCK recently completed the grueling overland trip to California and is now being tested at the 1st Amphibious Truck Co., Camp Del Mar, California.

It carries 8,000 pounds of material and personnel at a speed of 55 mph on land or 7 mph on water. It keeps going after almost total submersion; bails itself out automatically; inflates and deflates its own tires; moves up 60% grades.

The SUPERDUCK is tested, proved, READY!

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GENERAL MOTORS CORPORATION
TRUCKS

GMC TRUCK & COACH . . . A General Motors Division

Marine Corps Gazette

JUNE 1959
NUMBER 6
VOLUME 43

Published by the Marine Corps Association in order to provide a forum for the expression of matters which will advance knowledge, interest and esprit in the Marine Corps

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THIS MONTH'S COVER ..... The cover illustration, painted by AMSgt John De Grasse, represents Marines attacking the Japanese-held sugar refinery at Charan Kanoa, Saipan, 15 years ago.

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Opinions expressed in the Gazette do not necessarily reflect the attitude of the Navy Department nor of Headquarters, United States Marine Corps

Defense Weapon

The telephone is a defense weapon —and an important one.

A manufacturer of rockets, for example, needs data or delivery on a specific part. He picks up his telephone, makes several Long Distance calls, and his problem is solved.

An unidentified aircraft is detected in flight by a radar installation. The information is relayed automatically and instantly over telephone cables to a defense center.

It is then flashed over the network of special Bell System telephone lines which link the country's entire system of continental defense.

The role of the Bell System does not stop there or with the thousands upon thousands of calls that are a part of the manufacture of countless items of defense.

Its Bell Telephone Laboratories are engaged in many important research and development projects for the government. These include the Nike Zeus anti-missile missile system and the guidance system for the Titan intercontinental ballistic missile.

Western Electric, the Bell System's manufacturing and supply unit, is producing the guidance and control equipment which is the heart and brains of the mighty Nike Ajax and Nike Hercules missile systems.

The Sandia Corporation, a subsidiary of Western Electric, continues to manage the Atomic Energy Commission's Sandia Laboratory, which develops, designs and tests atomic weapons.

Among many other Western Electric defense projects were the 3000-mile Distant Early Warning (DEW) Line in the Arctic and the "White Alice" communication system linking population centers and military installations in Alaska. Both were completed on schedule and turned over to the Air Force.

Another project for the Air Force was the design, production and supervision of installation of a communications system for a guided missile test range extending out to sea.

The backbone of this system is the special underseas cable that stretches 1370 nautical miles from Cape Canaveral in Florida to Puerto Rico. It provides an instant, secret, weatherproof means of transmitting data on missiles in flight.

Radar installations along the way spot the missile's flight position which is flashed continuously to the testing base by cable. So are signals from the missile itself.

Recently the U.S. Air Force asked us to add the communications phases of a ballistic missile early warning system to the other military projects handled by the Bell System.

The Bell System is primarily engaged in providing telephone service. But it gives top priority and its utmost effort to the needs of Government whenever it is called upon for work for which it is specially fitted by size and experience.

Particularly when it comes to protecting the country, it's good to use the best scientific knowledge available in the communications field.

BELL TELEPHONE SYSTEM

Rebuttal to Counterattack

. . . In reply to my critics in Message Center (Mar '59), I think they should be applauded for the high sense of duty which inspired their counterattack on my article "Payoff for the VTU" (GAZETTE, Feb '59). Unfortunately, their personal dedication has not conferred upon them any penetrating analysis of the facts which prompted the article. In their well-intentioned fervor they missed the real impact of the article. Since the main points of the article were missed, let's summarize them: 1) a Reservist naturally places his civilian career first 2) consequently, smart planning will find and use the important common denominator between civilian and military career, and 3) leadership ability is the most important common denominator which can be exploited to the benefit of the Marine Corps and the individual and at the same time enhance military training.

Apparently the VTU Board, which recently met at HQMC to evaluate the whole VTU training program, thinks the same way. MajGen Alan Shapley's "Marine Corps Reserve Notes #25, of 8 Apr 59, reports that one of its recommendations to attract young officers is "Offer a leadership course. Business and industry offer such courses to assist young men in their careers. The Marine Corps stresses leadership. Point out to young officers that our leadership course will assist them in their business career."

LtCol W. P. J. Drakeley, USMCR
2005 Concord Pike
Wilmington, Dela.

Like All Good Things

. . . Captain Newton in his article "Let's Put One-Man Helicopters In The Marine Division" (GAZETTE: Mar '59) asks if there is "a better solution for the infantry battalion's reconnaissance problem." There is, I believe, just that (i.e., a better solution) in the existing Tactical Aerial Observer Section of Division G-2. The school-trained TAO Section with the VMO pilots and aircraft, the OE and HOK, available to it is capable of performing all tasks that the battalion might present to it and which would be common to the proposed one-man helicopter outfit. It is as readily available to the battalion commander as need be and the situation is likely to demand. The timeliness of its information is as good as the PRC 10 radio contact from the aircraft to the battalion commander. In addition, it has in the aircraft it employs a far greater range or time-aloft-for-observation than that possessed by the one-man helicopter.

I cannot agree with Captain Newton that a requirement exists for the one-man helicopter in the FMF, rather do I feel that it *does* fall into the "nice to have" category.

1stLt Allan J. Orth
3d Mar Div
FPO, San Francisco

This June issue of the GAZETTE marks the last one for Maj Clyde B. Shropshire as Managing Editor. Coming to the GAZETTE upon graduation from Junior School, MCS, Quantico, he has served as Managing Editor for 2 years. Maj Shropshire is going to an I&I assignment in Atlantic City, N. J. The new Managing Editor is Maj Herbert Preston, who comes to the GAZETTE from the 3d MarDiv. Upon graduating from Junior School in 1954, Maj Preston served a tour at HQMC before reporting for duty with the 3d MarDiv.

An Ethos Challenged

. . . As I read the two GAZETTE Essay Contest articles (Honorable Mention, Group I) in the April issue, my mind inescapably returned to the selected winner which appeared in the January issue. In my judgment either of the two April articles (*The Security of Stability* and *We Can Double Our Training Week*) were superior and more appropriate than the presented winner, *An Ethos for the Professional Soldier of Today.*

To my mind the professional soldier today fulfills his duty best when he is properly related to and integrated with his community and all elements of the nation; when he possesses political awareness, and a sense of social responsibility that makes him the servant of the nation rather than its ruler. Furthermore, that article cast adverse reflection upon our "citizen-soldiers" of the past by saying they lacked martial spirit. Here certainly the author has misread his history.

The articles in the April issue were constructive and of practical value. They tended to inspire the reader to action, and constituted an affirmative approach to existing problem areas within the Marine Corps.

Speaking as a long time reader of the GAZETTE, I must say I have never previously quarrelled with the judgment of the editorial board on the Essay Contest, but in my opinion they went far awry on the 1958 contest.

LtCol T. M. Burton
Inspector-Instructor
16th Reserve Inf Bn
Milwaukee, Wisconsin

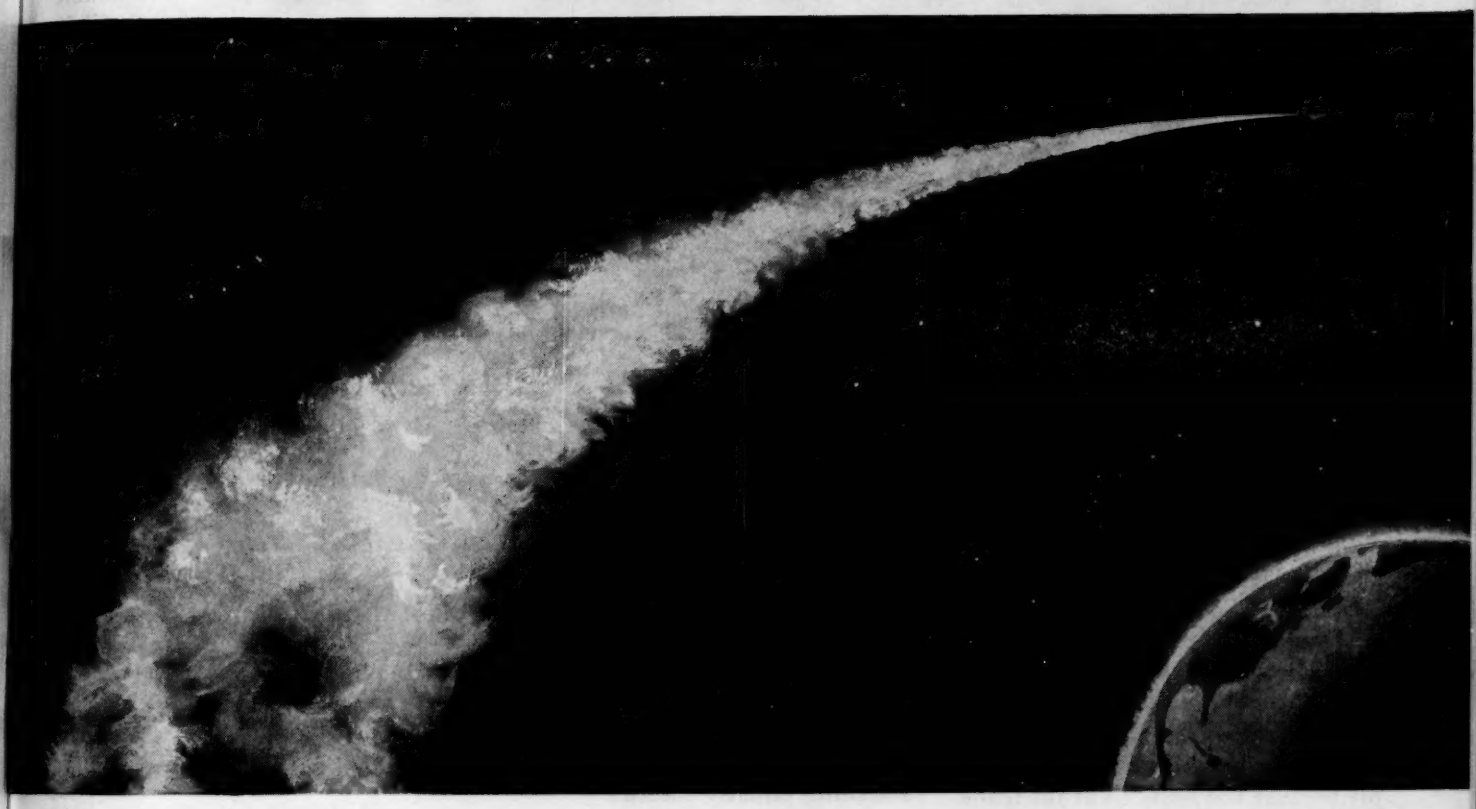
(Continued on page 6)

★

The GAZETTE will pay $5.00 for each letter published in Message Center

★

DYNA-SOAR



Dyna-Soar (for dynamic soaring) is a joint project between the Air Force and the NASA, and is an attempt to solve the technical problems of manned flight in the sub-orbital regions. Advance knowledge on the project indicates how a boost-glide vehicle can operate from the outer fringes of the atmosphere where it can maneuver and be recovered undamaged. Studies show that by varying the original rocket boost, and thus the velocity, and with the control available to the pilot, the Dyna-Soar aircraft can circumnavigate the earth, followed by a normal and controlled landing. Boeing Airplane Company, one of the competing companies for the development contract for the complete boost-glide system, has delegated to RCA the responsibility for the development of important electronic components of Dyna-Soar.

RCA Tmk(s) ®

RADIO CORPORATION of AMERICA

DEFENSE ELECTRONIC PRODUCTS

CAMDEN, N. J.

Skimming the Cream

. . . The article in the March issue of the GAZETTE by AMSgt Elliott was truly the cream of a particularly fine issue. There are answers in this article to questions that have perturbed many a thoughtful Marine since the reorganization under the "New Look."

If AMSgt Elliott's ideas were adopted we would see a practical remedy for the old evil—attachment of machine guns and the control and supply problems that result from attachment. Many a platoon leader can recall moving along at the head of a 70 or 80 man "platoon," a great portion of which was in the form of attachments, and over whom he could exercise only limited control. Many an unattached leader can recall either real or imagined slights when supply matters were considered by the unit he was supporting. Many a rifle platoon leader and machine gun platoon leader can remember arguments over the employment of the guns, arguments brought about in many cases simply by unfamiliarity with personalities involved rather than unfamiliarity with the tactical principles of machine gun employment. Every commander rightly likes to work with people that he has trained and that he knows well. This makes for the teamwork born of mutual confidence and understanding.

The new squad would be more compact and easier to control simply because the missions of the teams are so obviously and clearly defined. In an offensive situation the machine gun team would automatically assume the base of fire mission in support of one or both rifle teams. This would eliminate the necessity for the squad leader to issue even a fragmentary order in many cases. The squad leader could establish certain SOPs and "team plays" in which the squad could be drilled to the point where they could automatically and instinctively respond with aggressiveness and vigor to practically any situation that would occur. Such instinctive reactions to situations would contribute a suppleness and flexibility to our tactics that we greatly need.

Familiarity with machine guns does not breed contempt, but respect. Familiarity with machine gun personnel living in the same squad bay, as an integral part of the rifle squad, breeds swift, smooth, well-coordinated decisive squad and platoon assaults which result in fewer casualties.

Another consideration brought to mind by AMSgt Elliott's article is the implication of saving personnel under his concept of reorganization. In each company, a saving of 28 enlisted men and one officer is realized. When multiplied by 4, there is a saving of 112 enlisted men and 4 officers at battalion level; 336 enlisted and 12 officers at regimental level.

One suggestion as to what might be done with at least 6 of the men thus saved would be to add two 3.5-in. rocket teams of 3 men each (gunner, asst gunner, and ammo carrier) to the platoon headquarters. This would give the platoon an organic antitank assault capability and reduce further the problems of attachment.

Capt C. G. Eaton

Marine Detachment
USS Hornet (CVS-12)

Sugar-Coated Recruiting

. . . Lately I have been listening with growing nausea to inane jingles sponsored by the Army and Air Force recruiting offices. These are couched in typical Madison Avenue style and usually feature some girl pop singer or duck-tailed rock and roller who raves about how a million right guys can't be wrong, or something equally idiotic.

I have been proud of the Marine Corps for abstaining from this sort of thing and have been keeping my fingers crossed in hope that it would continue to preserve its dignity.

Just recently, however, I heard a silly tune about how the Marine Corps builds men. It isn't the wording or intent that offends me so. It's the sugar-coated, juvenile, and in my opinion undignified, way in which the pitch is made. I think it would be far preferable to hear Chesty Puller or some gravelly-voiced Sergeant Major with 30 years service say straight from the shoulder, "Lad, the Marine Corps is an esteemed and proud fighting organization. We stress hard training, spirit and quality in combat. If you think you can make the grade, we will take you and make a Marine out of you."

I hereby plead for a return to straightforwardness and dignity in Marine Corps recruiting. Aim at getting only those men who have the guts and the desire to live up to the traditions of the Corps.

H. S. Johnson, Jr.

Route 2
Columbia, S C.

Acclaim for Stability

. . . LtCol Nicholson's essay "The Security of Stability" (GAZETTE: Apr '59) has been met with more general acclaim and approval by both staff NCO's and officers than any GAZETTE article in recent years.

He presented in a very readable manner a problem that is of concern to all professional Marines. I have heard this same subject discussed in the officers' mess, company office, and staff NCO quarters. The solution reached in every discussion was the need for greater stability.

It is human to resist change and to desire to maintain the status quo. That is not the prime motive in the current desire for stability. The prime motive is a real need for continuity in command and policy that will allow for progression rather than the standstill engendered by constant adjustment to changes.

Capt. J. R. Luckett

1st Marines
1st MarDiv
Camp Pendleton, Calif.

Source of Knowledge

. . . Although Commander Barker's well written article on Soviet air transport development (GAZETTE: Apr '59) is informative and excellent reading, I feel he failed to give proper credit in regard to the design of many of the Soviet transport aircraft.

It is well known that at the close of WWII Russia abducted hundreds of German technicians, some of whom were noted aircraft designers. Thus we see a predominate German design with the Russians collaborating to some extent. Russia never did have the technical knowledge or know-how to design and produce aircraft of the type they are presently using.

ASSgt R. A. Lang

H&MS-35, MAG-35
Cherry Point, N. C.

Philco Ground-Space Communications System commands and tracks **DISCOVERER** satellite

DISCOVERER . . . the United States' newest earth satellite . . . is opening new vistas on the frontier of outer space. And Philco is proud to play an important role in this renowned achievement as a part of the Discoverer Team . . . in conjunction with the Lockheed Aircraft Corporation and the Air Force at the direction of the Advanced Research Projects Agency of the Department of Defense.

As the subcontractor for Discoverer's entire communications system, Philco designed and developed the vast complexity of ground-space communications, tracking, commanding and data gathering and processing systems.

The Philco-designed and equipped system observes and commands Discoverer through a series of five tracking and data collection stations in Alaska, California, Hawaii and a specially equipped ship at sea. Philco continues its participation in the Discoverer Program by assisting in the actual operation and maintenance of the communications and data handling network.

Philco's part in the Discoverer Program is typical of the many and diverse advanced research and development activities being conducted in our laboratories on the East and West Coasts where outstanding career opportunities abound for Engineers, Mathematicians, and Physicists.

In the wonder-world of advanced electronics, look to the leader. Look ahead . . . and you'll choose Philco!

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GOVERNMENT AND INDUSTRIAL DIVISION
WESTERN DEVELOPMENT LABORATORIES
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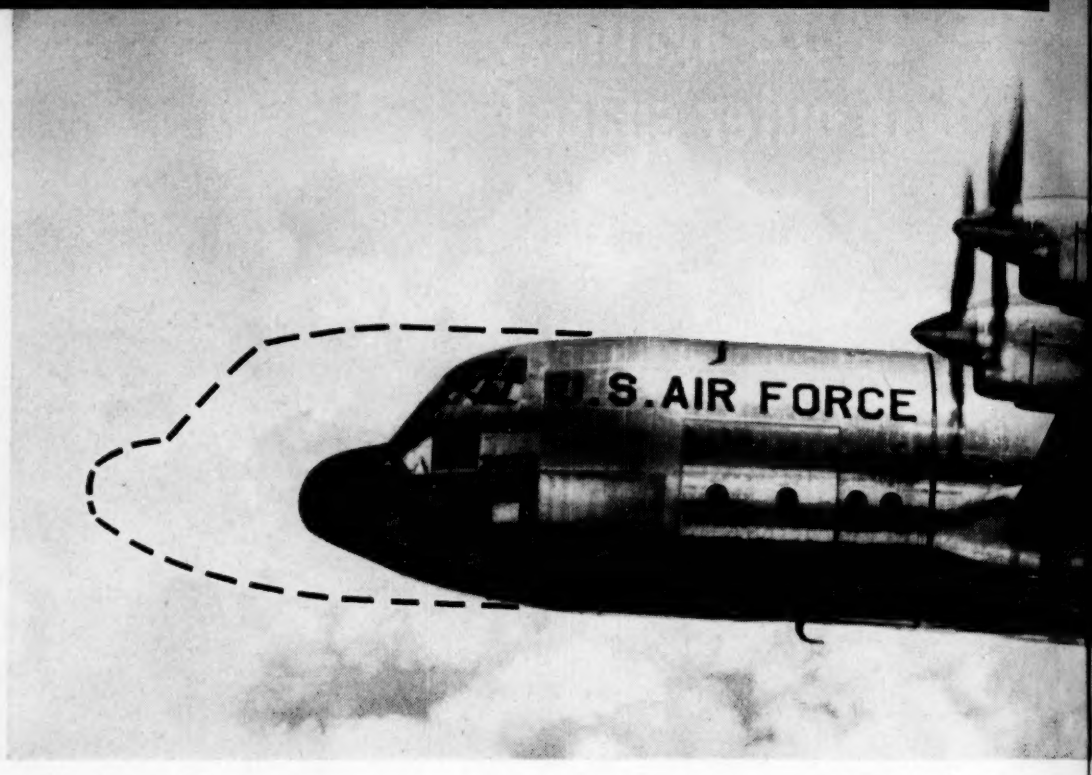
New Lockheed Super Hercules
Big brother of U.S. Tactical Airlift champ

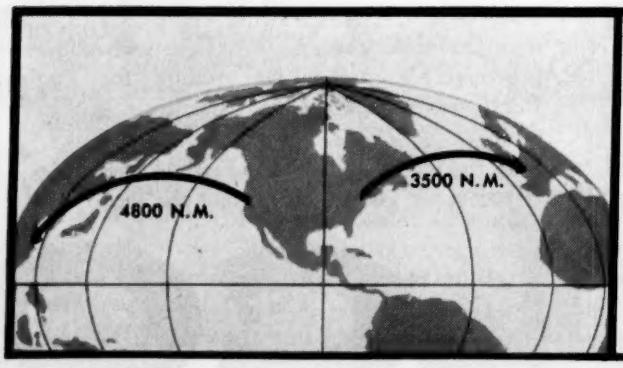


An ocean-spanning logistic support transport, the GL-207 Super Hercules is a "stretch" version of the C-130 Hercules—famous for its headline-making feats in over two years of service with USAF's Tactical Air Forces.

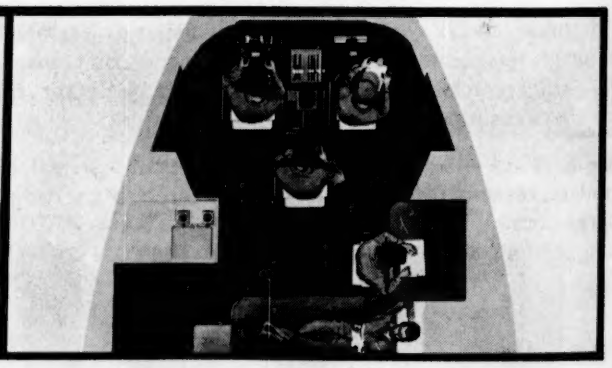
The GL-207 Super Hercules has a fuselage 23 feet longer than its brawny brother's. Its wing span is 12 feet greater... its propeller-diameter has been expanded by 2½ feet... internal fuel capacity has been increased to 10,236 gallons for greater range (pylon tanks add another 1800 gallons).

Powered by four new GM-Allison T-61 Prop-Jet engines, the Super Hercules provides nonstop trans-Atlantic and trans-Pacific transport for personnel, vehicles, palletized/containerized freight, missiles, and general cargo. Maximum payload: 78,000 pounds.

The GL-207 Super Hercules will come off production lines at Lockheed's Georgia Division. Like all Lockheed aircraft, the Super Hercules is designed for long life, easy maintenance, and low cost of operation. Result: maximum airlift, for minimum dollars.

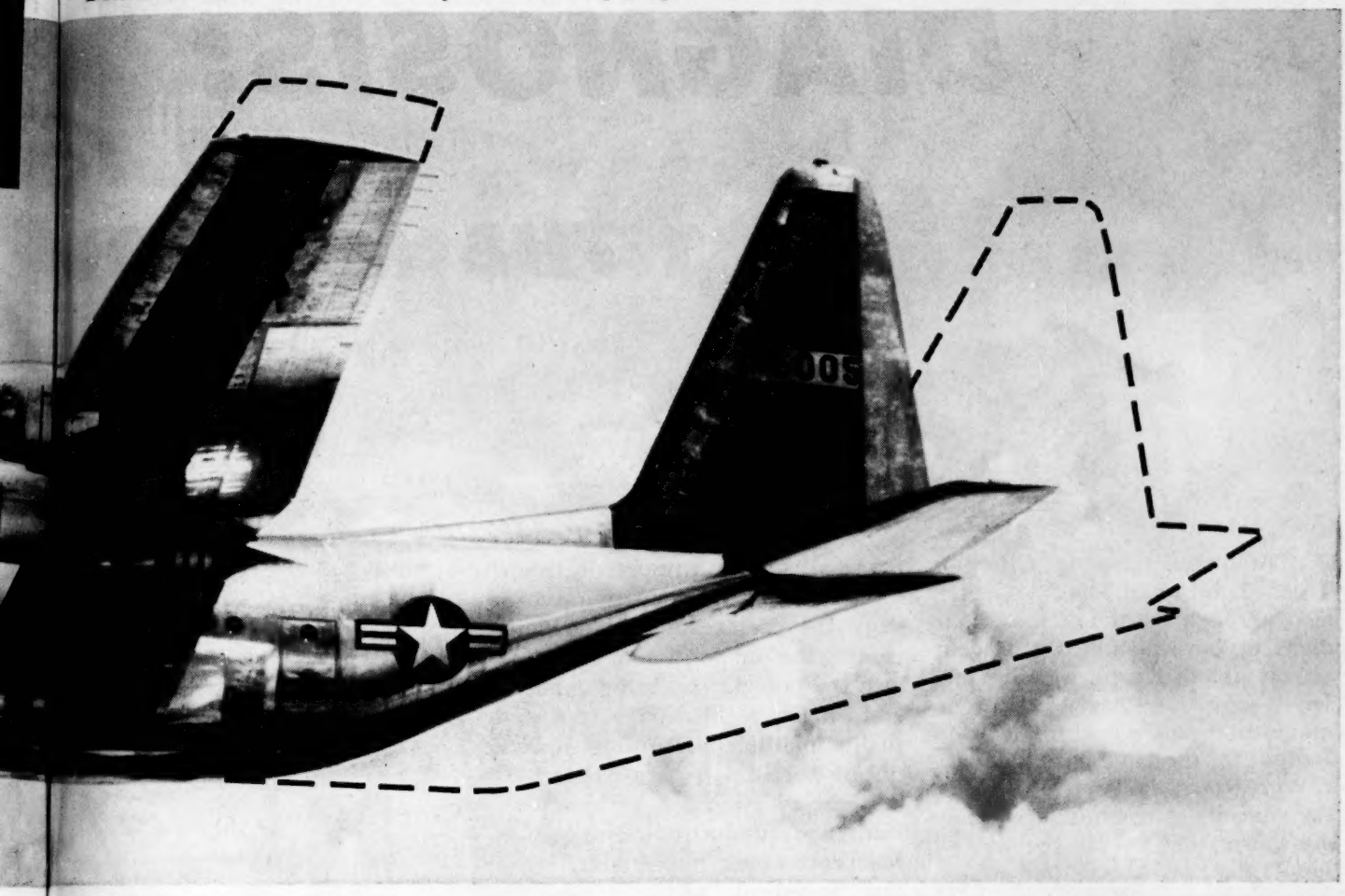


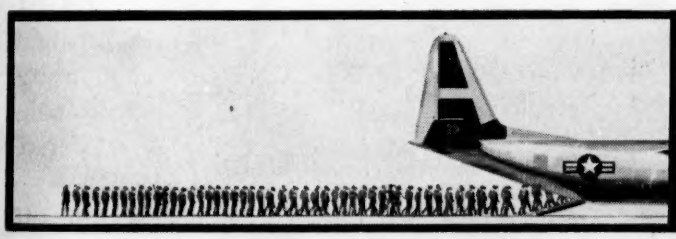
Transporting 50,000-pound MATS cargoes nonstop across the Atlantic—or, with pylon tanks, spanning the Pacific nonstop carrying 16-ton loads 4,800 nautical miles—is Super Hercules' mission.



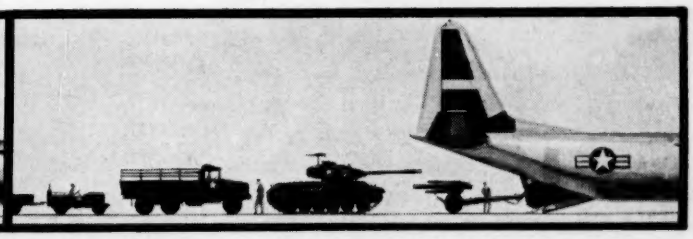
Crew efficiency on long flights is assured by flight station design approved by experienced transport pilots. Super Hercules' crew compartment includes relief crew sleeping space, galley facilities for hot meals in flight.

Dotted line shows size of GL-207 Super Hercules, superimposed over now-in-service C-130 Hercules.

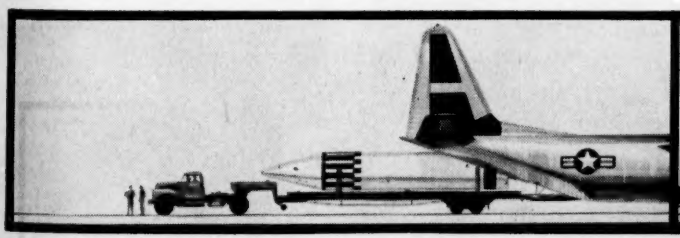




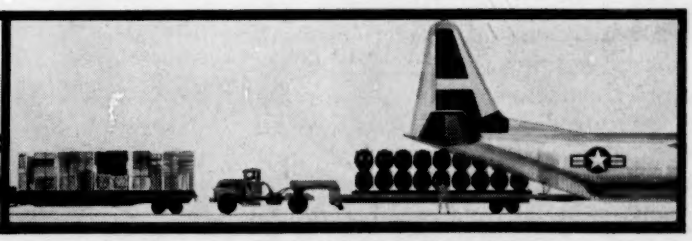
152 combat-ready troops, or 116 paratroopers can be transported in the GL-207. With airline type seats, the Super Hercules can carry 105 persons comfortably.



Combat vehicles can be driven up the hydraulically controlled ramp-door of the end-loading GL-207 Super Hercules—a vital time-saver in emergency situations.



Big ballistic missiles—assembled, with boosters, on trailers, or dollies—fit easily into the huge pressurized cargo compartment of the GL-207 Super Hercules.



Assorted cargo—runway matting, jet engine containers, fuel and oil drums, etc.—can be speedily loaded onto Super Hercules' truck-high cargo floor.

LOCKHEED

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DIAGNOSIS:

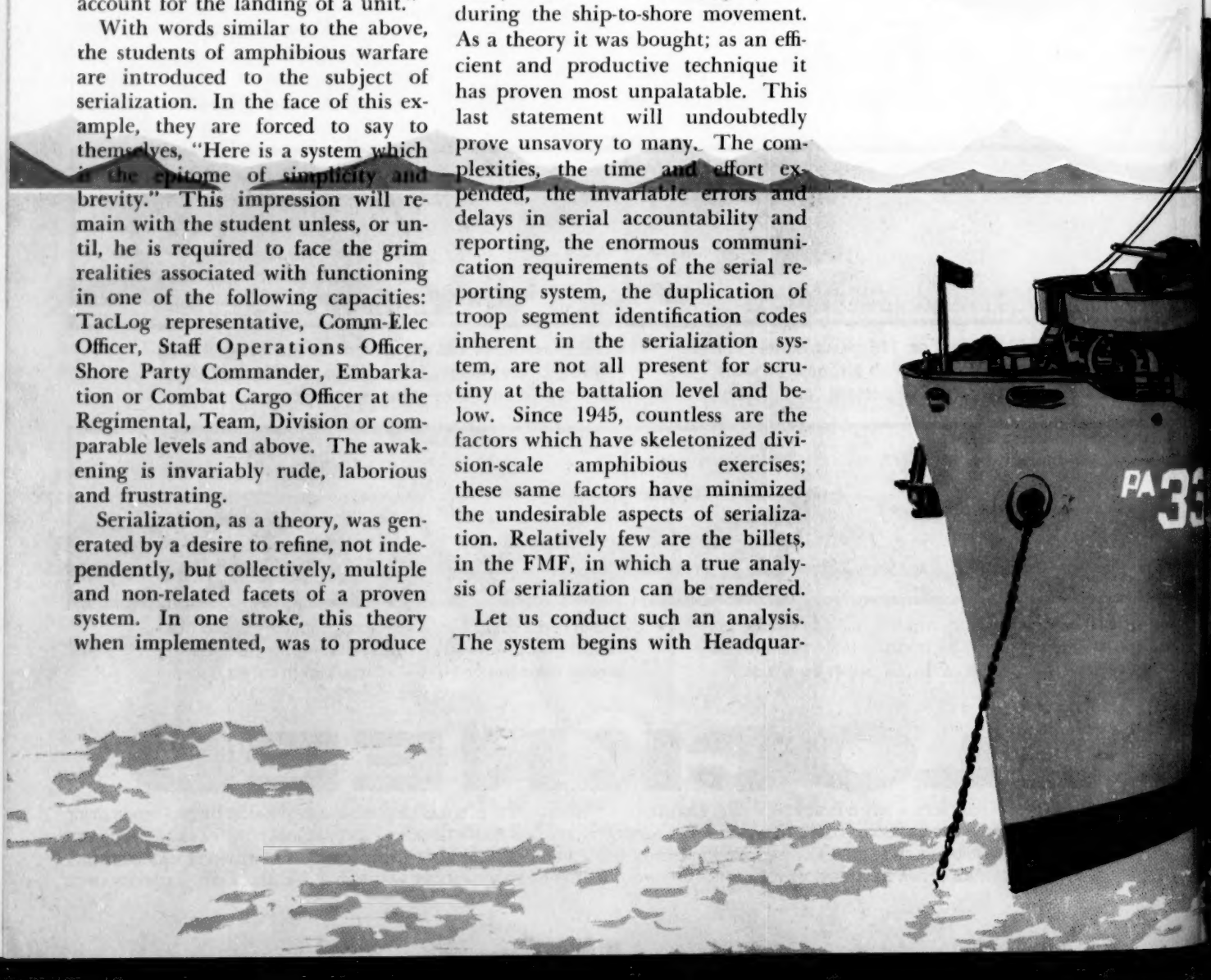
THE MALADY O

"BLUEBOY, THIS IS CHICKEN Thief. Land serial 1106." "Gentlemen, through the use of those four digits we have identified a segment of amphibious troops, we have preserved security, we have briefed communications and we will be able to account for the landing of a unit."

With words similar to the above, the students of amphibious warfare are introduced to the subject of serialization. In the face of this example, they are forced to say to themselves, "Here is a system which is the epitome of simplicity and brevity." This impression will remain with the student unless, or until, he is required to face the grim realities associated with functioning in one of the following capacities: TacLog representative, Comm-Elec Officer, Staff Operations Officer, Shore Party Commander, Embarkation or Combat Cargo Officer at the Regimental, Team, Division or comparable levels and above. The awakening is invariably rude, laborious and frustrating.

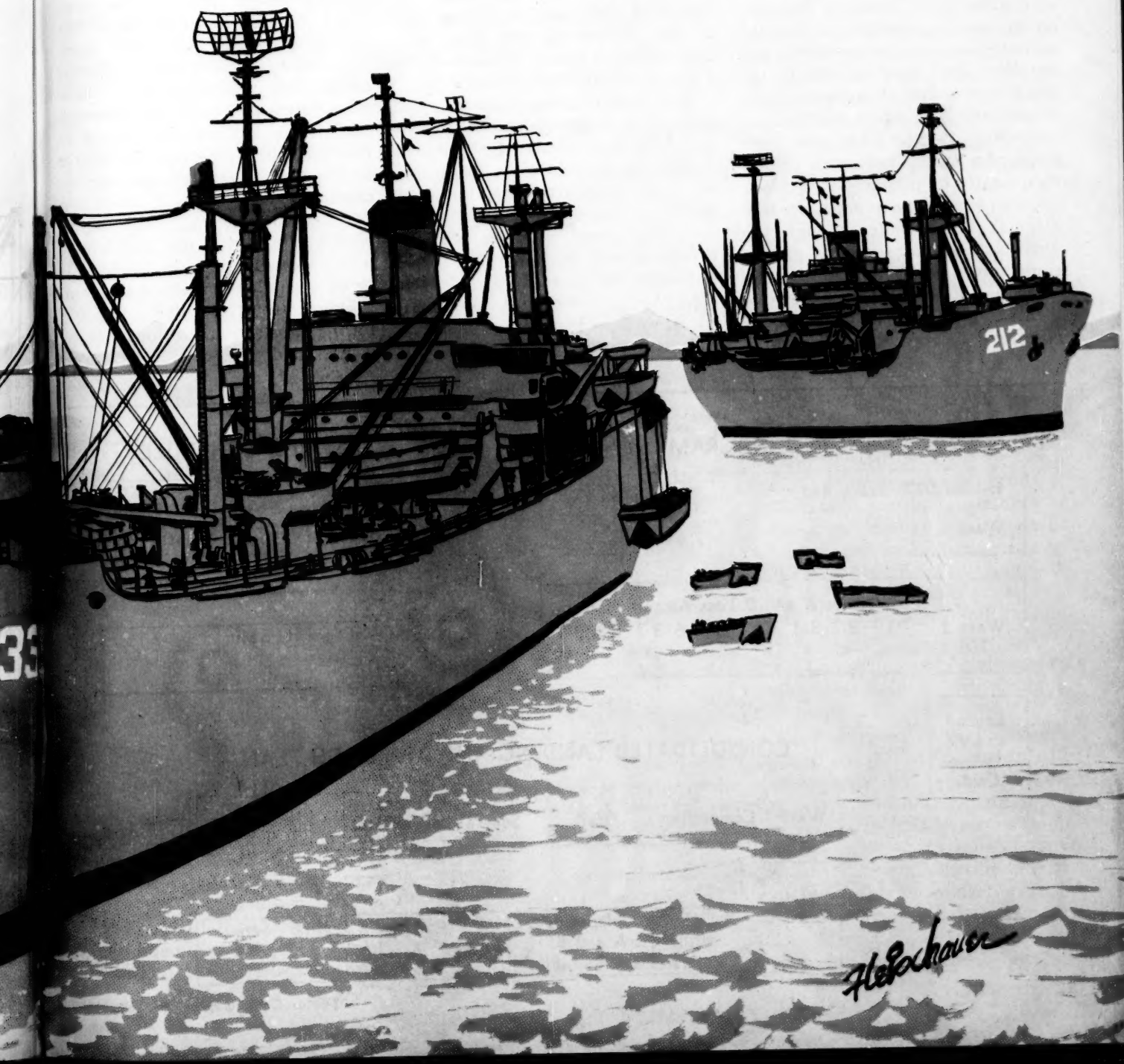
Serialization, as a theory, was generated by a desire to refine, not independently, but collectively, multiple and non-related facets of a proven system. In one stroke, this theory when implemented, was to produce infinite detail with respect to troop components, brief communications, deny the enemy information concerning the composition of amphibious troop segments being landed, and provide for a detailed and virtually infallible accounting system during the ship-to-shore movement. As a theory it was bought; as an efficient and productive technique it has proven most unpalatable. This last statement will undoubtedly prove unsavory to many. The complexities, the time and effort expended, the invariable errors and delays in serial accountability and reporting, the enormous communication requirements of the serial reporting system, the duplication of troop segment identification codes inherent in the serialization system, are not all present for scrutiny at the battalion level and below. Since 1945, countless are the factors which have skeletonized division-scale amphibious exercises; these same factors have minimized the undesirable aspects of serialization. Relatively few are the billets, in the FMF, in which a true analysis of serialization can be rendered.

Let us conduct such an analysis. The system begins with Headquar-



YOF SERIALIZATION

By LtCol Frank A. Long



LtCol Long, commissioned in May, 1941, has spent much of his career in logistics, beginning in 1944, when he was assigned as an instructor, Command & Staff Logistics Section, at Quantico. He was Div-EmbarkO in China from 1946-47, with the 1stMarDiv, and later served as OiC of both Embarkation Sch and Logistics Sch, TTUPac. He is currently with Staff, ComPhibLant, in Norfolk. Prior to that he was Logistics Coordinator, MCEC, Quantico.

ters, Amphibious Troops, assigning early, in the planning phase, a block of consecutive numbers to each of its troop units. The numbers (serials) in each block are in turn to be reassigned by the parent unit to its components which are intended to land prior to commencement of general unloading. Here at the very outset, two imponderables face the planners, i.e., how many consecutive numbers shall they include in the block they assign to a given subordinate unit and when will general unloading begin. They can only guess. An insufficiency with respect to quantity of numbers in a block assigned to a given unit requires additional correspondence and frequently necessitates a large gap in consecutiveness of the numbers assigned to that unit. The ___ Marines, identifiable by the 1600-1700 block originally assigned them, determine during their detailed planning that they require fifty more numbers; because of previous allocations to other units of the numbers 1700 through 2900, the ___ Marines draw 3000-3050. View this lack of consecutiveness in numbers from the standpoint of the personnel involved in the serial reporting and accounting systems; they must now deal with two blocks of numbers for a given unit in place of one.

The second guess must be well padded or the serialization system will fail. Specifically, the planners must delve deep into the low priority units (low, from a priority of landing standpoint) in order to insure that serial numbers are appended to such units, should general unloading be delayed beyond even the most conservative estimates. Thus, we find hours upon hours of staff and clerical effort devoted to the preparation and reproduction of, what invariably proves to be, non-utilized segments of serialized records.

In pursuance of our analysis let us take one of the assigned serial numbers, 106 for example, and trace it through its multiple listings in the landing plans. The basic forms of the landing plan documents depicted below were lifted from appropriate LFMs and NWIPs. Since the forms illustrated in such publications are intended as guides only, the below samples have been adjusted to include "field" interpretations and alterations based on specific requirements. One such requirement, in the case of serial 106, is that of a pre-H-hour transfer (we haven't, as yet, reached the point where we can eliminate this undesirable procedure in every case). Coupled with the latitude allowed in adjusting landing plan document forms to specific requirements and desires is a certain amount of freedom with respect to the degree to which serialization begins on one extremity with "on call" units and may be extended to include scheduled waves; at the other end it may terminate with non-scheduled units or be expanded to include even amphibious troop supplies. The following illustrations demonstrate, to a marked degree, current practices:

LANDING DIAGRAM

H-hour 0900 Beach Red 1

Wave 1

	Companies A and B Less Assault Platoons								
	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9
Wave 3 106	x	x	x	x	x*	x	x	x	x

Legend
x - LVT
*Wave Cmdr

ASSAULT SCHEDULE

Beach		Red 1
Wave	Time	Craft/Veh Unit Serial
3	H+6Min	

CONSOLIDATED LANDING AND APPROACH PLAN

Wave	Composition	Units	Source	Leave Launch Area	Land	Remarks
1						
3	9-LVT	Companies A and B less Aslt Plt	LSD 00	H−27	H+6	Serial 106

INTERSHIP TRANSFERS

Time	Serial	Personnel	From	To
Pre-H-Hour	106	300	APA 00	LSD 00

SERIAL ASSIGNMENT TABLE

Serial No.	Unit	Pers	Material Equip Vehicles	Craft Number Type	Ship	Remarks
106	Co A (-) Co B (-)	300	Normal Combat	9-LVT	LSD 00	

AMPHIBIAN VEHICLE EMPLOYMENT PLAN

Origin	Number and Type Amphibian Vehicles			Wave	Destination	Remarks
	LVT(H)	LVT	DUKW			
LSD 00		9-LVT		3	Red 1	Co A (-) Co B (-) 106

LANDING CRAFT EMPLOYMENT PLAN

No. of Craft	Type	From	To	Time of Arrival	Period Attached	Remarks
15	LCVP	APA 00	APA 00	H—125	One Trip	Transfer Ser 106 To LSD 00

AMPHIBIAN VEHICLE ASSIGNMENT TABLE

Craft No.	Personnel and Material	Boat Spaces	Formation
LVT 3-1	Plat Ldr 2d Plat Co A	1	
	Runner 2d Plat Co A	1	
	3d Sqd 2d Plat Co A	13	
	_____	—	
	_____	—	
	_____	—	
		32	
LVT 3-2	Plat Guide 2d Plat Co A	1	
	_____	—	

In the above forms it may be noted that:

a) The number "106" appears 7 times for a total of 21 digits. In the light of dozens of serial numbers in an assault schedule the typing and reproduction effort can be appreciated.

b) The composition of Wave 3 is amply identified in the Assault Schedule, Landing Diagram, Consolidated Landing and Approach Plan and Amphibian Vehicle Employment Plan yet in each case serial 106 is appended and its composition further itemized in the Serial Assignment Table.

c) Where the serial number stands alone in a landing document it is meaningless without the reader cross referencing it through the voluminous Serial Assignment Table.

d) Whereas a serial number as applied to a scheduled wave is not apt to be changed (except in the case of typing errors) they are very prone to be altered in the case of "on call" units. Where such changes occur, the serial numbers, in addition to troop listings, must be traced through the appropriate forms; two changes must be made in the place of one. An individual, to appreciate the effort and time involved, must observe the G-3 planners of a full strength reinforced division as they undertake such a task.

This redundancy of identification through serialization is not limited to units found in the assault schedule but extends, as evidenced by the example on page 14, to the non-scheduled units. In this typical example it is also to be noted that the forms for the Landing Sequence Table and Vehicle Summary and Priority Table have either had to be expanded, or the contents of columns altered in order to provide for a "Serial" column—another vivid demonstration of serialization's success in complicating planning documents.

Thus far the subject of serialization with respect to its application to helicopter operations has not been broached and for a very good reason; the near impossible aspects of this subject rated priority of discussion over the impossible. This marginal difference is generated basically by two factors, namely, the limited capacity of helicopters in combination with their speed. For reasons of security a detailed comparison of modern landing craft capacities and speeds, versus those of helicopters, cannot be presented; however, such an analysis (or better still actual experience in an amphibious exercise involving mass helicopter operations) will indelibly impart the following:

a) The quantity of serial numbers required taxes even the theory of numbers.

b) The speed of the helicopter enables serials to be landed with such rapidity that the serial reporting and accounting systems report and record ancient history as modified by incorporated errors (serial 320 for 302 etc). Whereas it is remotely possible to unravel errors in surface landed serials it is virtually impossible to do so in the case of helicopter landed serials; any at-

LANDING SEQUENCE TABLE

Unit	Element	Ser	Carrier		Ship	Beach	Remarks
			No.	Type			
Co A, 2d Engr Bn	1st Plat (-)	908	2	LCM	AKA --	Blue 1	

SERIAL ASSIGNMENT TABLE

Serial No.	Unit	Pers	Material Equip Vehicles	Craft Number Type	Ship	Remarks
908	1st Plat (-) Co A, 2d Engr Bn	5	1 Tractor TD/18 1 Truck, 21/2T Cargo	2 LCM	AKA --	

VEHICLE SUMMARY AND PRIORITY TABLE

Description				Vehicles	Cargo Loaded in Vehicles
Priority No.	Veh. Type	Organ.	Ser. No.		
1	Tractor, TD/18	1st Plat Co A Engr	908		
2	Truck 2½ T Cargo	-do-	908		

tempt to correct obvious errors or omissions ties up communication to the extent that incoming, and already ancient reports, are mummified.

The Serial Assignment Table was previously mentioned; this document, for a full strength division, pound and cube wise, will exceed even a deluxe edition of a Sears and Roebuck catalogue. For a full appreciation of the rigors brought about by the volume of serial records, one must observe beachmasters, shore party commanders, primary control officers and TacLog representatives in their native environment (rain, wind, confusion, a pitching deck, communication difficulties, etc.) juggling this document along with the masses of other references required in the serial reporting and recording systems.

It has been pointed out that the same serial number is to be found listed several places in the landing plans not to mention its further repetition in the embarkation plans. One number in itself, identifying a given unit causes no problem. Multiply this number by hundreds of numbers, and possibly even thousands, inject countless changes and errors of every description in both the primary and alternate plans and the following statement made by a pre-eminently successful G-3 in the Corps can be appreciated: "There are no combinations of staff requirements that are as time consuming, frustrating and laborious as serialization."

Wartime embarkation planning, one of the most difficult and laborious staff aspects of an amphibious operation, becomes a natural prey to serialization. That the identification, quantity, type (functions) and debarkation priorities are established, published and available to all is inadequate. The Vehicle Summary and Priority Table, as previously shown, assigns a debarkation priority number to a given vehicle; the vehicle is identified by its standard nomenclature and the unit to whom it belongs listed. To this already sufficiency of detail (proven by countless wartime operations) is added a serial number which together with the information previously mentioned (less the debarkation priority number) is repeated again in the serial assignment table. Although the "book" specifically states otherwise, one of the most common misconceptions connected with serialization is the belief, on the part of too many, that the presence of a serial number opposite a vehicle or block of cargo assures its availability for selective discharge — nothing could be farther from the truth. Serial numbers in no way indicate in themselves, a priority or sequence of landing. All the serial numbers in the universe won't insure availability for discharge of specific cargo unless the debarkation priority has been established and reached in the offloading process.

Vying for honors as principal fallacy connected with the theory of serialization is the contention that it briefs communications. Compare the length of these two versions of the same request. "Land serial figures one one zero six" or "Land Company ALFA Engineers." The first message, utilizing a serial number, requires more words/groups by either voice or CW than does the non-serialized version. Another example: a TacLog party transmits to a Helicopter Support Unit "Serials numbers two zero nine through numbers two one nine have cleared the carrier" vs "Recoilless Rifle Platoon, First Battalion, has cleared the carrier" — here a loss of five words, through serialization, has been encountered. These losses, insignificant in themselves, have been cited only to indicate the degree to which the fallacy "briefs communications" extends.

The paralyzing blow is dealt communications by the serial reporting and accounting systems which are integral parts of the system of serialization. Figure 1 (page 15) depicts in solid lines, a simplified version of radio nets used by serial accountability and reporting systems. The reports, their titles, and communication systems vary between Forces and between operations. In discussing

these reports their titles and contents will be omitted for security reasons.

Let's examine a few but constantly repeated serial reports for a better understanding of how serialization "briefs communications."

Example 1. Anyone who has served in a staff billet on a Flagship at any level during an amphibious operation appreciates the interest exhibited by the corresponding commanders (naval and troop) with respect to the landing of the scheduled and on-call waves. Maintained either in flag plot or on the bridge is, of course, the Landing Status Board which in this modern era of serialization resembles the "big board" in the New York Central Stock Exchange. Doctrine states that serials may or may not be assigned to the scheduled waves—that leaves the door open, so we find these waves saturated with serial numbers too. Despite the speed of electricity, it takes a great deal of time for the Primary Control Officer to transmit by radio to his Transport Unit Commander the dozens of serial numbers that may be found in the scheduled waves. Working as rapidly as possible, this information is relayed by the respective Transport Unit Commanders to the AGC. Remembering that there may be dozens of three or four digit numbers involved, these reports normally reach the AGC one to two hours after H-hour. No thinking staff can tolerate such delays at such a critical time (the bridge can't watch that Landing Status Board for one, much less two hours, subsequent to H-hour and not witness a mark being placed by each serial number indicating that it has successfully landed). So a requirement is placed on the communicators which will permit flag plot to guard primary control's voice transmissions covering the landing of the scheduled waves (see dotted lines, Figure 1). This attempt by the staff is an admirable one but jamming, normal communication failures, distance involved, and interference invariably result in several or whole blocks of serial numbers not being received by communication facilities aboard the AGC. The staff at this point can either: 1) interpolate from those portions of the serials copied that all serials in the scheduled waves did successfully land or, 2) face the "music" on the bridge while sweating out the one to two-hour delayed serial report received by teletype from the Transport Unit Commanders. Invariably the first choice is a poor one; one or more serials will fail to reach the shore line and previously marked "downs" must be erased and "explained."

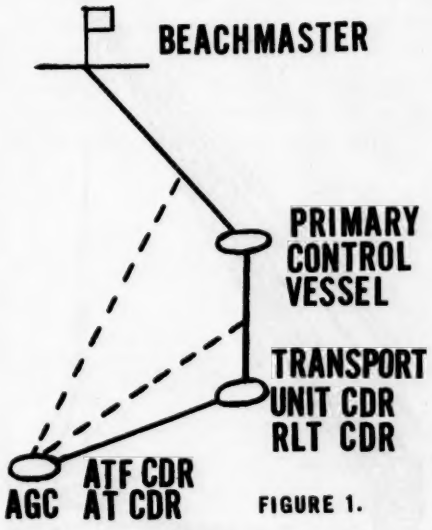


FIGURE 1.

Example 2. Serial report 10 to the AGC lists, among dozens of others, the landing of serial 1305, 1731, 1991. At this point in the landing such reports are originated by the beachmasters. As the plotters on the bridge begin to plot this report it suddenly becomes apparent that errors have been made — these same serials were reported in Report 8 as having already landed. Remembering that serialization provides an accurate record of the status of the landing, corrective action must be taken at once. All the way back down the control chain is relayed an interrogatory regarding these serials. With a lot of luck and at the same time tying up vital communications, including subsequent serial reports, an answer to the following effect can be expected back in five to eight hours:

> Serial 1305 as reported in Report 8 should have been 1503.
> Serial 1731 as reported in Report 8 occurred through an error in transmission; should have been reported as 1713.
> Serial 1991 was erroneously reported as "landed" in both reports; an error was made by copying from the "vicinity of the control vessel" column of the transport units landing status board.

Example 3. Serial report 15 lists in part the landing of serials 3011, 3013, 3019, 3020 through 3038. At the Amphibious Troops level these represent serials still aboard ships in the sea echelon. Down goes another long transmission along with all the attendant communication problems and delays asking for clarification. Back comes the answer hours later — a late change in the serialization plan, approved but apparently not yet received by CG Amphibious Troops, explains the conflict.

Example 4. Serial Number 2110 (an on call serial requiring 4 LCMs) is urgently required ashore. After some delay that serial supposedly lands only to find out that the wrong unit was landed. An error in transmitting and relaying, landed serial 2110 instead of 2101. Precious hours are lost awaiting the landing of the urgently desired unit.

Example 5. Extremely stiff resistance was anticipated; controlled unloading was expected to extend well into D + 1. All staffs worked endlessly day and night in the process of serializing units. Preparation and the assault were so successful that general unloading was directed early in the afternoon of D-Day. Weeks of staff effort connected with serialization was discarded.

The examples cited above and others too numerous to mention have occurred in every exercise that the author has witnessed or participated in— these errors are a natural product of the system and cannot be avoided. Place yourself in the shoes of any one of the personnel previously mentioned, a Shore Party Team Commander for example, and consider his plight. In addition to trying to stay alive on a hostile beach, offload cargo, keep traffic moving, brief incoming units as to the location of their parent units ashore, relay requests to the Tac-Log, direct floating dump vehicle operators to their proper destination, and countless other critical tasks, he must be burdened with being confronted with hundreds of abstract numbers, which are meaningless unless he carries with him a voluminous Serial Assignment Table.

Close on the heels of "briefing communications" and struggling for

first place honors comes "preserves security." Place yourself in the position of a beach defender who is having everything in a modern naval arsenal thrown at him by an amphibious assault. Suddenly you intercept this message which is being passed from the Shore Party to a TacLog: "Request you land 1st Platoon, ALFA Engineers." Here is a bit of Intelligence information which will enable you to turn the tide of battle. Security is most desirable but let's don't pay the exorbitant price demanded by serialization. We have and we publish the means for maintaining security through the use of call signs, code names, crypto, etc.; they will provide it if used properly. Serial numbers, as an Intelligence preserving tool, are at best only effective during the ship-to-shore movement; they lose their identity immediately upon landing. Captured enemy documents of WW II and reports of our own communications Intelligence agencies (acting in the role of aggressor) in every amphibious exercise since 1945 reflect the following fact — from the moment radio silence is broken in the objective area there is more Intelligence developed through radio intercept than can be copied much less processed — serialization is not even a soothing balm much less a panacea to our security illnesses.

Changes occur daily in military doctrine, techniques and organization. Experience gained through experimentation either proves or disproves theory. Where theory is disproved, embarrassment should never be a product of such experimentation. The theory of serialization is no exception in this respect. If serialization is to be discarded because of its complexities, exorbitant demands and inherent weaknesses, what then is to replace it? The answer will be found in a system whose characteristics are the antithesis of those demonstrated by serialization. Such a system will recognize that:

a) Senior commanders (including flag and general officers) should devote their full attention to those facets of the landing worthy of their time, talents, and experience. The fact that an insignificant element of the Landing Force, or that a boat or helicopter load of supplies, has landed will not be a function of its design. The production and reporting of such infinitesimal detail, lacking in attendant criticality, would be faulty in its very concepts.

b) Simplicity and brevity in written plans, oral orders, and reports are essential to success; while detail is desirable, its practical limits are all too easily exceeded.

c) The demands for extreme detail and repetition in planning data, together with elaborate reporting systems increase in geometric proportion, without compensatory benefits, with every echelon above the one directly concerned with implementation.

d) Justifiable faith by a commander in his staff and subordinate commanders, gained through proper training and leadership, will do far more to assure success in the conduct of a landing than will the pursuit of unlimited detail in plans and reports.

The author in setting forth the recommendations that follow draws upon, what he believes to be, the best of two existing systems, namely, the basic landing document forms presently used and the fundamental ship-to-shore procedures of WW II with some modifications.

Recommendation 1 — Abolish serial numbers. In one stroke this will simplify and abbreviate immeasurably our landing documents and reporting system by eliminating four columns, hundreds if not thousands of typewritten entries in the landing plans of a full strength reinforced Division, and that goliath of all documents, the Serial Assignment Table. The absence of serial numbers will free our communicators, staffs and commanders from the paralyzing minutia generated by their mere existence.

Recommendation 2 — Categorize "on call" units or waves as being only those which are capable of being boated and held in a ready status near the line of departure at H-hour. Units or waves dependent upon the second and subsequent trips of transportation media and further dependent upon being reached in an unloading priority sequence are in essence no different from any other unit listed in the Landing Sequence Table. This step will abbreviate the Assault Schedule and depict therein clearly and unmistakably the units immediately available to a commander at H-hour with which he can influence action ashore. In furtherance of this recommendation let it be understood that there are no miracles worked by placing an "on call" unit or wave in the assault schedule if it is not capable of being landed commencing immediately after H-hour; recognize instead its inertia and its dependence on a landing media but acknowledge also its landing priority by placing it in the appropriate place in the Landing Sequence Table.

Recommendation 3 — Implementation of a progress of landing reporting system limited to: a) a report that all scheduled waves have landed or major deviations in the landing of such waves, b) a report of the landing of the "on call" waves (as previously defined) when they occur and c) a report of landing of major reserve units in the event that they are not categorically "on call" units.

Recommendation 4 — Substitute a periodic progress of unloading report (per cent personnel, vehicles, bulk cargo, etc.) in place of the present reports involving hundreds or thousands of serial numbers found in the Landing Sequence and Serial

Assignment Tables, many of which are completely insignificant from the Amphibious Troops standpoint. The justification for this proposal is substantiated by the following:

a) The high priority units included in the scheduled and "on call" waves are reported to Troop and Navy commanders alike as they land.

b) The troop task unit commanders ashore and those who may still be afloat during the landing of the units listed in the Landing Sequence Table have multiple channels of communication to the Shore Party, TacLog, and subordinate commands by which they may ascertain whether major units have landed and over which they are fed this information in most cases, on virtually an automatic basis.

c) BLT and RLT commanders land early in the assault and are too concerned with fighting a war ashore to be plagued with reports consisting of yards of serial numbers; the latter is soon followed ashore by the Division commander. Like the proverbial "boy left holding the bag," TacLog and Helicopter Direction Center personnel, communicators, shore party and naval staffs are faced with wading their way through serialization when in actuality the per cent offloaded is their primary interest at this point in the landing. A visit aboard an amphibious flagship or control vessel during this phase of an operation will verify the validity of this last statement should any doubt exist in the mind of a reader.

Now let us examine these recommendations in the light of landing operations from one LST of the two or three (depending upon class) assigned to an LVT landed BLT. The assault schedule as it pertains to the units aboard the LST is brief. It includes only those units assigned to the scheduled waves and conceivably a high priority critical unit to be included in an "on call" status at H-hour.

Subsequent to landing the units in the scheduled waves, a percentage of the LVTs are employed, in this example, to land what present doctrine terms "on call" units. In terms of Recommendation 2 above we find such units given a high priority in the new abbreviated Landing Sequence Table as shown below together with other units which it is intended to land prior to the commencement of general unloading.

lowing request from the shore party, "Land 1st Plat, A Engineers." The control officer orders the Engineers in as requested. The "YES" needs no elaborate discussion — simply compare carefully the proposed form of the Landing Sequence Table with the one presently employed; two unnecessary columns together with hundreds of entries have been abolished. The negative answer to the third question is obviously correct— a unit is called for by its recognized title, the recipient of the request is not forced to wade through reams of abstract numbers, multiple listings

LANDING SEQUENCE TABLE

Unit	Carrier		Ship	Beach	Remarks
	No.	Type			
1st Plat, Co A, Engrs	6	LVTP(5)	LST ____	Red	Second Trip of LVT Rpt PCV H+65

Has the early availability of the above indicated Engineer Platoon been lessened by deleting it from the assault echelon? Have the complexities of the Landing Sequence Table been diminished appreciably? Has the deletion of a serial number confused, confounded or complicated the identification of a troop unit? The answer to each of the above questions is most emphatically NO. YES and NO in that order. Let us subject these answers to a critical analysis. The six LVTs involved proceed to LST ____ in accordance with the dictates of the Landing Sequence Table where they embark the Engineer Platoon and report to the primary control officer off RED Beach at H-hour plus 65 minutes. At H plus 70 minutes the TacLog party on the PCV receives the following request from the shore party, "Land 1st Plat, A Engineers." The control officer orders the Engineers in as requested. The "YES" needs no elaborate discussion — simply compare carefully the proposed form of the Landing Sequence Table with the one presently employed; two unnecessary columns together with hundreds of entries have been abolished. The negative answer to the third question is obviously correct— a unit is called for by its recognized title, the recipient of the request is not forced to wade through reams of abstract numbers, multiple listings and cross references in order to identify the unit requested.

Without going into the details of helicopter ship-to-shore documents it should suffice to state that the advantages inherent in the above recommendations are compounded when they are applied to helicopter operations.

The false and overrated claims put forth by the advocates of serialization have been exploded; its exorbitant demands during both the planning and execution phases have been demonstrated. A recommended replacement system characterized by simplicity, brevity and expediency has been offered. It remains up to you, the reader, to verify not in terms of words but by actual tests, the validity of the proposals contained herein. USMC

★ ★ ★ ★

Dessert, Anyone?

DURING THE SUMMER of 1952 in Korea, a company commander received word that his company would be visited by a colonel from Division Headquarters, and that the colonel would eat the noon meal at the company mess. Wishing to impress his visitor, the captain managed to scrounge an almost white table cloth, some not-too-battered silverwear, and some slightly cracked china for the mess tent, while the First Sergeant briefed the messmen.

Soon the colonel arrived, and all went well through dinner, the captain proud of his field accommodations and snappy messmen. However, after dinner, one of the well-briefed messmen picked up the colonel's plate and politely stated, "Sir, if you want dessert, you'll have to lick your spoon, 'cause we don't have no more silverware!"

Maj. T. C. Shanahan

WHAT IS

ALL FAMOUS FIGURES BECOME men of legend. The legend often passes for history. It is the duty of the historian, an arduous one, to search for the historical reality that underlies the popular impression; if the passage of time produces a cooler atmosphere, it is still hard labor to unwind the memorial grave-clothes in which the figure has been wrapped.

One of the most common tendencies of mankind is the desire to create idols, and the tendency has increased in the last two generations. A time of stress increases the common need for a "great man" to whom faith can be pinned. Achievement or mere position serve to indicate a suitable hero who is then transformed into a symbolical figure, until few traces of reality survive.

If one scans the newspaper files of WWI, it will be found that "military genius" sprouted everywhere, and apparently bore several crops a year. It was applied in turn to all the higher commanders of each and every country — including some who looked as unmistakably wooden as they were found to be in retrospective analysis. In WWII it was used at the outset to describe Gen Gamelin, the French Commander-in-Chief. But the infrequency of its application after the fall of France to any of the Allied leaders showed how relatively cautious the press and public became with experience.

In wartime the people tend to crave for a hero-leader, and as a natural consequence the leaders of the moment are invested with the prop-

IS MILITARY GENIUS?

By B. H. Liddell Hart

erties of genius — until disillusionment strips them. Because of the dangers that follow in the train of disillusionment, the best guarantee of a nation's staying power may be that its people should be chary in expecting miracles and looking for miracle-workers. Genius is best gauged in retrospect.

This raises the question "What is military genius?" The attempt to define genius in any sphere has produced innumerable definitions and led to endless controversy. So far as the military sphere is concerned, the simplest course is to take the list of those to whom the description is generally applied in history — the list of the "Great Captains" — and examine their credentials.

It is clear that enduring fame is a primary qualification. There have doubtless been many "village Cromwells" who had as much or more innate genius as those who are known as "Great Captains," but they have left an insufficient mark on events to engrave their names on the roll.

On the other hand, enduring success is not an essential condition. Any list of the "Great Captains" would include Hannibal and Napoleon — and in many lists they would probably be the first two names. Yet both ended their campaigns in defeat; and their careers in failure.

Similarly, the victorious Northern generals in the American Civil War have been overshadowed ever since by the defeated leader of the Southern armies, Robert E. Lee. And as a result he is usually singled out as the most striking example of military genius which that war produced — although the outward characteristics of genius, and perhaps the inner quality too, were more marked in Sherman, who was on the opposite side, and Forrest, who was on the same side.

It thus becomes clear that the secret of enduring fame for a soldier lies in the achievement of such a temporary domination of a man's contemporaries as to captivate the imagination of succeeding generations. This suggests that, to ensure such fame, it is more important for a general to win victories than to gain the victory. As with an artist, his ultimate standing depends not on whether success crowned his career, but on the masterpieces he produced in practising his art.

In the great struggle between Rome and Carthage, it was Fabius Cunctator ("the Delayer") who, by his shrewd strategy of evasion, paralyzed Hannibal's invasion and paved the way for Rome's final triumph. But because he achieved no striking success in battle, no military historian has ever included him in a list of the Great Captains.

Even Scipio Africanus, who extended the process of undermining Hannibal's position by cutting away his "props," and then overthrew him in the battle of Zama, has been eclipsed in the eyes of posterity by the man he defeated. This is the more strange since the brilliance of Scipio's earlier campaigns match those of Hannibal, and bear evidence that he was fully as great an artist of war.

How are we to explain the paradox that the loser in this battle of giants has subsequently wrested the laurels from his conqueror? That outcome would seem to show that the imagination of mankind is more impressed by the flash of a meteor than by the more permanent radiance of a star that stays remotely in the sky. The career that ends with a sudden descent to earth, there to merge in the common dust, has a more human appeal.

It is hard to make emotional contact with a saviour who remains on high. In common language, "Olympian" carries a note of complaint — expressive of the feeling that "it must be chilly up there." By contrast, it is easy to understand what the spread of Christianity, the "religion of the common man," has owed to the Crucifixion.

While this reflection serves to remind us of the irony of history in making supreme fame dependent on dramatic failure, it does not carry us far towards determining the nature of genius, as distinct from fame. It does, however, enable us to widen our survey and to include certain suggestive cases which have suffered the disqualification of success — soldiers whose work has had a lasting effect.

Napoleon cited seven names in his list of Great Captains — Alexander, Hannibal, Caesar, Gustavus Adolphus, Turenne, Eugene, and Frederick. It is worth noting that all the first five came to an untimely end, their achievements crumbling before or soon after their death, while the last two lived to see the tide of war turning against them. If this result

heightened their dramatic appeal to posterity, it casts a significant shadow on "the path of glory" and the pursuit of fame by conquest.

Napoleon's list, however, omits a number of great commanders who, if his study of history had matched his pretensions, or been less influenced by prejudice, should have been mentioned. Hannibal cannot reasonably be listed without including Scipio; nor Frederick without including Epaminondas, who, two thousand years earlier, had found his key to victory in the "oblique order" which Frederick imitated. Another outstanding claimant in ancient history is Belisarius; and if he be included, it is difficult to omit his great contemporary, the eunuch Narses.

When we come to the Middle Ages, the scale and skill of the Mongol campaigns compel the inclusion of Genghis Khan and Sabutai — whose super-mobile forces swept over Asia and Europe in turn, overthrowing every army they met between the Pacific and the Baltic. And the East can provide other claimants, both earlier and later. But this sphere of military history was outside Napoleon's orbit of study.

More surprising is his omission of Gonzalo de Cordoba, for whom the title of "the Great Captain" was first coined, and whose description as "the first modern general" is almost as well known. Then, if Gustavus is to be included, it is difficult to omit Wallenstein, who, by shrewd strategy, undermined the ascendency that Gustavus had attained by his development of new tactics.

Again, many critics would argue that Turenne should be accompanied by his brilliant contemporary and rival, Conde. And if any of these seventeenth-century generals be included, it would be irrational to omit Cromwell, who won more brilliant victories than either, and left a more lasting impression on history, not merely in England.

Coming to the eighteenth century, it is hardly justifiable to include Eugene while ignoring his partner, Marlborough. And a fair claim can be made for the French Marshal Villars, who, when he had the chance, proved a match for both of them, and at Denain won the last great battle of the war.

Napoleon himself must also be added to the list. And there are more grounds than the result of Waterloo for including the man who beat him there, Wellington. Half a century later came the American Civil War, where, it is generally conceded, Lee by his art earned a place in the roll of the Great Captains.

Strong claims, too, have been made for "Stonewall" Jackson's inclusion. For my own part, I would support the inclusion of Sherman, whose superior sense of strategy was the decisive factor in nullifying the results of Lee's brilliant tactics.

I would also stake a claim for Bedford Forrest, who appears to me to have had the greatest natural genius for war of any of the commanders on either side — by his paralyzing strokes against the enemy's communications, deep in the rear of the armies, he foreshadowed the essential elements of *blitzkrieg* strategy.

Then, taking account of the swiftness of the Prussian victories over Austria in 1866 and France in 1870, and of their far-reaching effect on the subsequent history, it is difficult to exclude Moltke. As for the war of 1914-1918, though none of the supreme commanders succeeded in dominating its course like the acknowledged Great Captains of the past, and though even the most masterful of them, Ludendorff and Foch, made amazingly stupid blunders, it is questionable whether the old masters would have proved more effective in coping with the conditions that developed — conditions more cramping to generalship than any previously known. And the war outside Europe produced at least one man of unmistakable military genius — T. E. Lawrence.

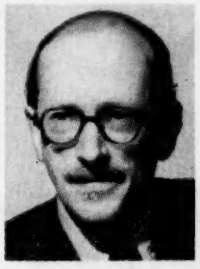
Examining this wider list, can we find any quality, or qualities, so marked in all of them as to represent a common denominator, and provide a key to their outstanding performance?

Originality is generally regarded as a sign of genius. But one finds it to have been comparatively rare among the great commanders. Gustavus was one of the few who clearly set out to provide himself with new means and methods. Epaminondas, Scipio, Gonzalo de Cordoba, and Cromwell were others, in varying degree — but they do not figure in Napoleon's "short list."

Most of the acclaimed masters of the art of war seem to have been content to use the tools that came to their hand. Alexander certainly owed his victories less to his tactical art than to his tactical mechanism; but he had inherited this from his father, Philip of Macedon.

Napoleon owed almost as much to new ideas and reforms which had been inspired by revolutionary pre-Revolutionary military thinkers in France such as Bourcet and Guibert. Yet although as a youth he was quick to appreciate their value, he did practically nothing during twenty years of command to develop them further, and was astonishingly neglectful of fresh possibilities that might have doubled the effectiveness of his forces. In all those years of power and of ever-growing war experience, no significant change was made in the training doctrine of the French army. Marshal Saxe, if manifestly inferior to Napoleon as a commander, showed far more inventiveness and intellectual curiosity — though his campaigns were fought before the French Revolution had burst the dam of traditional conservatism.

Such a contrast does not imply that originality has played an unimportant part in military history. Far from it. It is all too clear that the fate of nations has repeatedly been decided, and the most epoch-making changes in history determined, by changes in weapons and tactics — especially the latter. Creative thought has counted for more than courage; for more even than gifted leadership.



B. H. Liddell Hart, WWI member of the King's Own Yorkshire Light Infantry, is no newcomer to the pages of the GAZETTE. Recognized as one of the world's greatest military analysts, he has written no fewer than 30 volumes on military history and tactics, the latest being "The Tanks," a 2-volume history of the Royal Tank Regiment which will be reviewed in the GAZETTE in the near future. As adviser to the War Minister in 1937-38, he helped plan the reorganization of the British Army.

It is a romantic habit to ascribe to a flash of inspiration in battle results that often have been due to seeds long sown — to the previous adoption of some new technique by the victors, or to avoidable stagnation in the military technique of the losers. But such developments have usually been due to some original military thinker, and his influence upon a number of the more progressive soldiers of his generation, rather than to the action of any great general. In the history of war, the former class has been less numerous than the latter, but has probably had more lasting effect in proportion to its numbers.

This is a reminder that there are two forms of military genius, the executive and the conceptive — or as it might be expressed, with a greater aptness, the destructive and the constructive (of destructiveness).

The two forms are distinct, but not separate. Nor is each confined to one of the two classes. While the outstanding military thinkers have seldom been generals — or, at least, not generals in supreme command— and thus have rarely had the opportunity to put their ideas into practice direct, commanders-in-chief necessarily combine the conceptive and executive roles. Even if their conceptive power be poor, the combination is inherent in the very nature of their job — since action begins from a plan.

When we analyze the campaigns of the Great Captains it will be found that some owed their success more to their plan than to their execution, while others had a knack of making the best of an indifferent plan by their skill in carrying it out or in changing it on the spur of the moment.

Broadly speaking, this is the difference between the commander who is predominantly a strategist and the commander who is predominantly a tactician. For, although a plan is needed in tactics as well as in strategy, success on the battlefield is often more dependent on instinctive or intuitive action to meet the unexpected and to seize a fleeting opportunity.

That is why in earlier times, when armies were small and fought with short-range weapons, and when the battlefield rather than the theater of war was the general's arena, the quality most prized in a commander was *coup d'oeil*—an expressive term for the combination of acute observation with swift-sure intuition. All the Great Captains possessed in high degree this faculty of grasping instantly the picture of the ground and the situation: of relating one to the other, and the part to the whole.

As the range of weapons lengthened, and armies became more extended as well as larger in scale, so the need increased for a faculty wider and deeper than *coup d'oeil*— for *insight*. The power of penetrating, as Wellington aptly expressed it, into "what was going on upon the other side of the hill" — behind the enemy's lines, and in the enemy's mind. In the present even more than in the past, a leader must have a deep understanding of psychology in general, and of the opposing commander's psychology in particular.

Such a psychological sense is in turn the foundation of another essential, and more positive, element of military genius — the power of creating surprise, of producing the unexpected move that upsets the opponent's balance. For full effect, as history shows, it must be reinforced by an acute time sense, and by the capacity to develop the highest possible degree of mobility.

Speed and surprise are twin qualities. They are predominantly the "hitting," or offensive, qualities of true generalship. And their development, like that of the informative sense, depends on a faculty which may be best, and briefly, defined as creative imagination.

Since war is a two-party affair, however, it is not enough to possess these positive qualities unless the opposition is weak and passive. A shield is required as well as a sword. In seeking to upset the enemy's balance, a commander must not lose his own balance. He needs to have the quality which Voltaire described as the keystone of Marlborough's success — "that calm courage in the midst of tumult, that security of soul in danger, which the English call a cool head."

But to it he must add the quality for which the French have found the most aptly descriptive phrase — *le sens du practicable:* the sense of what is possible, and what is not possible — tactically and administratively. It is what we really mean when we talk of "common sense," and what we should mean when we talk of "realism." The combination of both these two "guarding" qualities might be epitomized as the power of cool calculation.

The sands of history are littered with the wrecks of finely conceived plans that capsized for want of this ballast. And the chequered career of one of the most famous leaders of the modern world was acutely summed up in the comment — "his conceptions have often been brilliant; his calculations almost always wrong."

Creative imagination is the essential characteristic of genius, in the military as well as in other spheres. When coupled with dynamic energy, it produces an executive genius. When balanced by cool calculation, it makes a Great Captain.

And when he loses that balancing power, through overweening ambition, his dramatic downfall creates another Great Legend — that, like the Sirens' song, lures the pilots of future generations in turn on to the rocks. USMC

INVESTMENT in an INVESTMENT

By LtCol A. R. Cason

WE ARE ALL FAMILIAR WITH THE old adage about throwing good money after bad. Congress has come up with a new twist on this old adage: throwing good money after good.

This twist takes the form of Proficiency Pay. The reason behind it is that after we have put a lot of money, as well as time and effort, into the training and development of highly-skilled enlisted men, we have been losing them to civilian enterprise so fast that we have not been getting a fair return on the investment. It appeared that a further investment in the form of extra pay was needed, to slow the rate of loss.

This amounts to a further investment to protect the initial investment.

Not everyone agrees with this solution. There are many who believe that this scheme is not adaptable to a military organization, that it will distort the values we have built up over the years, that it will upset our rank system, that it will damage morale, and that it is not enough to hold the men who are looking for greener pastures anyway. Besides, they say, it complicates administration.

The Proficiency Pay idea, first proposed by somebody in the Air Force, developed further by the Cordiner Committee, and finally enacted as law by Congress, is indeed a new approach. It is not entirely without precedent though. We have had some past acquaintance with various kinds of specialist pay, marksmanship pay, combat pay, and hazardous duty pay. It is radical enough that, as a Marine Corps program, it deserves examination.

This is a fairly expensive proposition. By 30 June of this year, it will have cost the Marine Corps over one and a quarter million dollars. In fiscal year 1960 it is expected to cost close to three and a half million.

There is a Marine Corps Order to describe the program and establish the rules, but this does not tell the whole story.

The Cordiner Committee was appointed in March, 1956, to "recommend adjustment in military pay scales necessary to attract and retain competent personnel in sufficient numbers." Some action was considered absolutely necessary because re-

enlistment rates and officer retention were dangerously low. The Committee, headed by Mr. Ralph J. Cordiner (president of General Electric), included top management people from business and industry, Assistant Secretaries of the Services, General Officers of all Services, and a working staff.

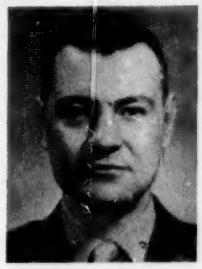
This group studied the problem for a year, found it necessary to go beyond the pure question of pay scales, and developed many recommendations. Among these were a new approach to pay scales, an expanded enlisted rank structure, and Proficiency Pay. We are concerned here with the Proficiency Pay recommendation.

The Cordiner Committee did not work in a vacuum. They made numerous and distant trips to the field, visiting all kinds of installations and talking to people in all ranks and occupations. It was at their request that the first NCO symposiums were held—to develop the considered opinions of our professional enlisted men. Members of the Committee and its staff were in almost daily contact with the headquarters of the Services.

The Defense Department took a number of the Committee's recommendations to Congress as proposed legislation. Congress examined and debated these proposals thoroughly, and finally passed them, in modified form, as Public Law 422, 85th Congress.

Even before the law was passed, Secretary Wilson thought so highly of the Proficiency Pay idea that he directed implementation of a limited program during fiscal year 1958, to be accomplished within the limitations of the Career Compensation Act as it then stood. Congress had acted before this program ever got off the ground, but the result was that by the time it was specifically authorized by law, the Defense Department and each of the Services had had the opportunity to give it careful study.

When the law was passed, the Commandant of the Marine Corps convened a board of five Generals and two Colonels headed by Maj Gen Robert B. Luckey to recommend specific means of using it in the best interests of the Marine Corps. The Luckey Board had available to it the opinions of all General Officers in the Marine Corps, Defense Department guidance, and various studies made at Headquarters.



LtCol Cason, a former editor of his college newspaper, was commissioned in Nov '41, after graduating from Carleton College (Minn.). He served in WWII with the 2dMarDiv until hospitalized by severe wounds received at Tarawa. He has had one previous article published in the GAZETTE, "The Hills, The Woods, and John Rifleman" (Jul '48). He presently heads the Enlisted Plans Section, Plans and Policy Branch, G-1, HQMC.

The Marine Corps Proficiency Pay program is based on Luckey Board recommendations. Every department and division of Headquarters participated in its development.

The objective of this program is to improve reenlistment rates, especially among Marines in whom we have a high training investment; to improve quality of work; to reward outstanding individuals; and to encourage retraining from overcrowded MOSs to those in which we have shortages. Generally speaking, the MOSs in which we are short are the ones in which there is a considerable training investment.

To accomplish this objective it was necessary first to find out which MOSs were most in need of improvement and to concentrate Proficiency Pay among them. These are called the critical MOSs. In the interest of improving performance of duty across the board, it was necessary to provide an element of competition. To reward outstanding individuals wherever they are, and to improve performance of duty on a service-wide basis, it was necessary to make some awards outside the critical MOSs, on the basis of outstanding effectiveness. It is traditional that the way should be open to every Marine to reap the benefits available for superior work. In the current program, 15 per cent of all proficiency payments are being made on this basis.

To determine which MOSs are critical enough to warrant a concentration of Proficiency Pay, it was necessary to compare over 200 MOSs with each other on the basis of training investment, leadership requirements, reenlistment rates, and shortages.

Training investment was used as the point of departure. It was calculated on the basis of Headquarters-directed training in formal schools. The number of man-years of formal school training as a proportion of the total number of man years represented by the population of each MOS indicates the relative training investment. In analyzing the MOSs, on-the-job training was also considered. It is generally parallel to formal school training.

The training factor was cross-checked against reenlistment rates and shortages or overages. Shortages and overages were examined in light of predictable future trends available in personnel projections. All MOSs were then examined from the standpoint of leadership requirements. This is particularly important because leadership is a skill in itself—one of the most important in the Marine Corps. It is developed the hard way, through experience and application, and does not lend itself readily to a mathematical formula.

The Marine Corps personnel system is not run on the basis of mathematical formulas. They are used as tools where appropriate, but judgment and empirical analysis must play an important part.

After comparative analysis, each MOS was placed in its proper relative position on the "critical list" and those found to be most critical were divided into three groups. The first group contained those which involve the most expensive and complex training combined with low reenlistment rates and shortages. The second group contained MOSs in which training investment was high but to a lesser extent, and in which reenlistment rates were unsatisfac-

tory and shortages significant. The third group contained those showing less severe deficiencies in onboard strength and reenlistment rates, but in which a high order of leadership is required. These are the combat leadership MOSs.

Because of the limited number of payments authorized in the first phase of the program, special steps had to be taken to make these payments where they would do the most good. The number of MOSs included had to be strictly limited, and it was necessary to authorize payments to different percentages of personnel in each of these groups (65 per cent in Group I, 40 per cent in Group II, and 10 per cent in Group III, as well as to limit the number of ranks which would be eligible.

Reenlistment rates were in the greatest need of improvement among personnel in pay grades E-3, E-4, and E-5. The Marine Corps is the only Service making payments to personnel in pay grade E-3. Lance Corporals are eligible under the law only because of the strong position taken by the Marine Corps in this matter. Congress accepted the view that they should be recognized in view of the important positions of leadership they frequently hold in the Marine Corps and of the number of men who complete their first enlistment in this rank, but stipulated that they must be seasoned by at least two years' service to be eligible.

Obviously many deserving men are left out of the program—men to whom we owe every consideration, and whose services we urgently need. With authority to make payments to only 6,000 Marines—around three and a quarter per cent of our enlisted strength—it was necessary to make hard decisions.

The accompanying graph shows how the total proficiency pay is divided among the various broad skill areas in the Marine Corps, and also indicates what proportion of our enlisted Marines are in each of these skill areas. Relative to their strength as a segment of the Marine Corps, the "technical types" get the lion's share. In number of awards, the combat leadership group gets the most.

In the fiscal year 1960 program, which begins in July, the number of authorized payments will be doubled. It will then be possible to make all NCO ranks eligible and to include additional MOSs. Payments are being made to Marines in 49 critical MOSs under the current program; preliminary planning indicates that they will be made in about 75 MOSs in next year's program. Outstanding effectiveness awards, now limited to one man in 45, will not have to be so thinly spread.

Long range plans call for making these payments eventually to 15 per cent of our enlisted strength—around 24,000 men. Payments of more than the present $30 per individual may also be authorized. The law permits up to $150. Actual programs will be based on experience with the present plan and the needs of the Service as they develop and are analyzed.

The law and the regulations established by the Defense Department are broad enough to permit each Service to establish a program responsible to its particular situation, organization and needs. Each of the Service programs is different from the others. Reasonable uniformity in concept and application is required, however. Interest in the operation and success of Proficiency Pay is so keen that Presidential approval of the program is required.

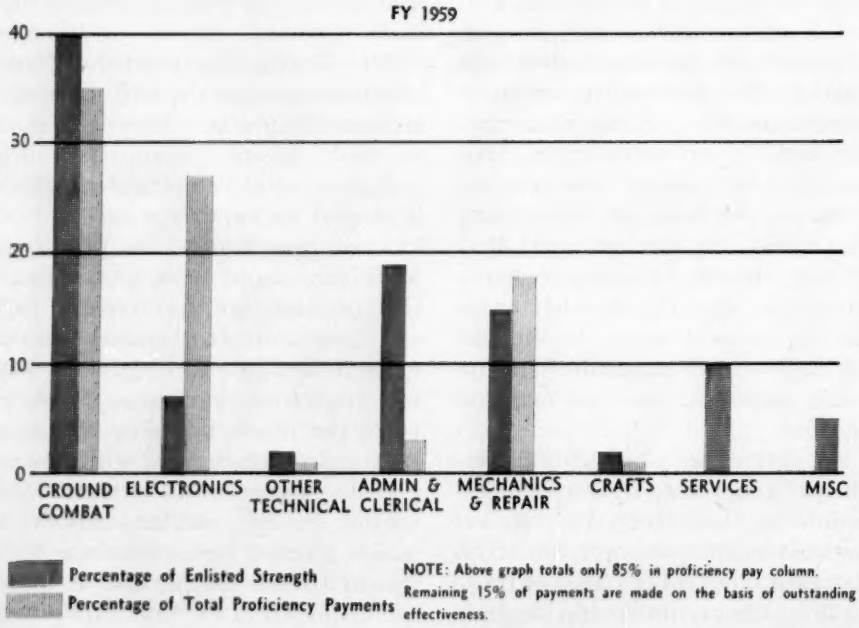
The Marine Corps program is based on our traditional recognition of the importance of both the technician and the line Marine, of the importance of the NCO, of competition, of reasonable opportunity for every Marine, and of decentralization.

The implementing order is written in the broadest terms possible. It places the Commanding Officer in the key position, recognizing that he has the greatest capability of determining which Marines are most deserving of this special pay, which individuals are contributing most to the Corps, and what the particular needs and circumstances of his organization are.

The Commanding Officer giveth and the Commanding Officer taketh away in the Marine Corps program. Within the limits of Headquarters guidance, he determines the specific manner of selection and the methods of examination, evaluation, and selection. The limitations imposed are intended only to ensure compliance with the intent of Congress and directives of the Defense Department, to ensure that the Marine Corps objective is attained, and to provide adequate control of the number of awards made.

Proficiency Pay is a tool of command. It can be an administrative nightmare, a burden on commanding officers, a source of confusion and dissatisfaction—or it can be a means to accomplish a specific objective, an important support in our personnel system, and a vital part of the Marine Corps way of doing things.

US MC



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The men:

A Navy photo reconnaissance flight crew—pilot, photographer-navigator, photo-technician—operating from a fast carrier task force. There's over a quarter of a century of naval air experience among them—much of it logged in Douglas prop-driven or jet aircraft.

The mission:

Photo reconnaissance. Navy search crews will range high and far from carrier decks, probing the terrain of troubled areas with high-speed telephoto cameras . . . returning with a cartographic film record that will reveal to sharp-eyed naval intelligence men the carefully camouflaged clues of any sneak attack-in-the-making.

OFFICIAL U.S. NAVY RECONNAISSANCE PHOTO

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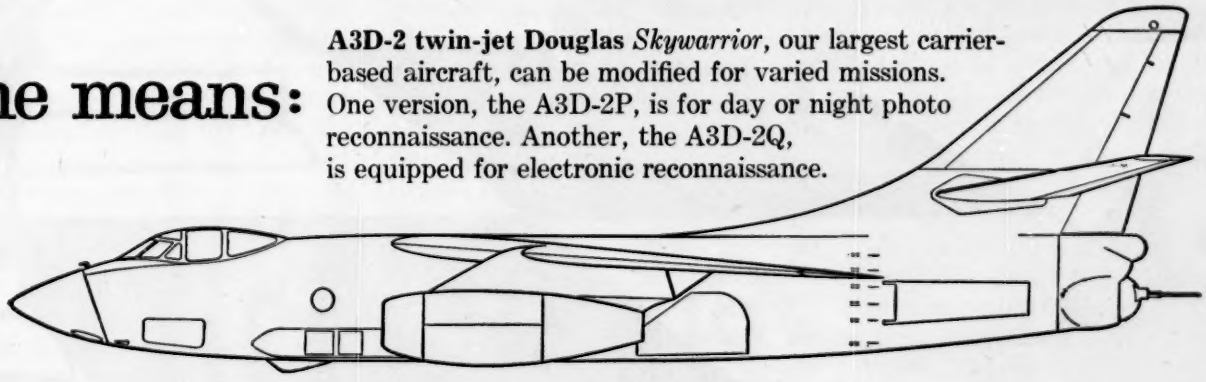

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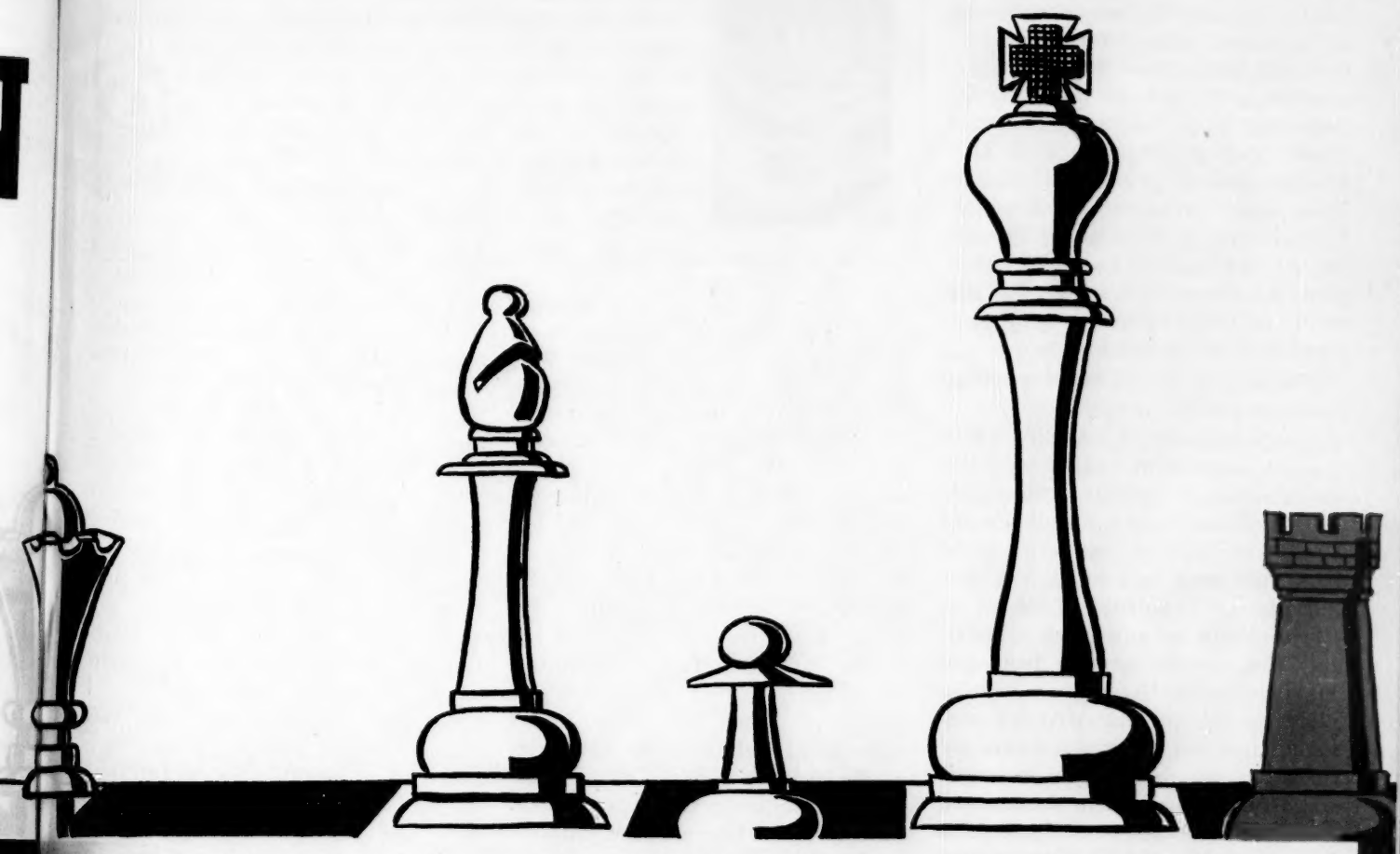
IMAGINATION

By LtCol J. P. Wilbern



THE WORLD TODAY PRESENTS A picture of ever-increasing complexity of operations, of planning, of policy making, of all such activities in which organizations find themselves engaged. And as this complexity increases, more and more sought after and more and more critical to their existence (let alone their success) is that individual possessing Imagination.

One such organization, no more no less immune to the need for the exercise of Imagination in its activities, is our Corps. The gauntlet of changing times has been cast down before us and we shall need our best thought, our best creative intellectual effort, our best exercise of Imagination to meet this challenge.

Great lengths are resorted to and great measures taken to discover this attribute, to nurture it and to encourage it, to direct and guide it. Business organizations such as the General Electric Company with its Creative Engineering Program for selected company members; educational organizations such as the Massachusetts Institute of Technology and its "Creative Engineering" sequence of courses; public-minded organizations such as the Creative Education Foundation founded by Alex Osborn (author of *"Applied Imagination"*) for the purpose of encouraging more creative trends in the field of public education; these and others are devoted to the "production" aspect of the concept of Imagination: ways, means, techniques for discovering, culturing, encouraging it. On the "utilization" end of this process, somewhat glamourized by the misty cloak of semi-secrecy surrounding them, are organizations such as the Rand Corporation, and the Johns Hopkins University's famed Operations Research Office. Their principal claim to fame and stock in trade? Imagination, and its application to the problems, real and theoretical, posed to them by the Armed Services as well as by business concerns of lesser renown and notice. Somewhat in between these two forms of activity but comprised of parts of each, less extreme and far less glamourous in approach and impact, lies the crux of this article: the Marine Corps and *its* production and utilization of Imagination.

To ensure that we are talking and thinking of the same entity, let us consider some of the more common definitions or concepts of Imagination:

". . . faculty for improvising methods, techniques, etc. to solve new situations and conditions encountered.

". . . ability to envisage/*project* those probably/possibly developing new conditions and problems; then to develop or lay the groundwork for the development of techniques, etc. to fulfill these *potential* needs. (Italics by author.)

". . . ability to combine old and new bits of knowledge, in new and useful ways, to the solution of present or projected complications or difficulties.

". . . Escape from the common-everyday, hackneyed, habitual approaches to problems, or even to new ideas. New patterns of attitudes, responses, reactions, visualization."

Most of all, I'm talking about the *active* exercise of brain power. I am specifically excepting mere stimulus-response type thinking wherein the well-trained mind, given a properly keyed stimulus, kicks out the prop-

erly keyed response. Rather, I have reference to the active, guided projection or visualization of a future circumstance, of a complex of factors only hazily known or suspected to exist at present. In fact, the circumstance may exist only in hypothesis; one might even call this process realistic crystal-ball gazing. *This* is the Imagination of which I speak. Nor is it an entity foreign to our Corps. Nor is it necessarily rare, but too rarely discovered as the result of deliberate action or purposeful effort by the Corps.

The Corps' annals often speak of Imagination and of the premiums it can pay: in terms of Roebling's first tracked amphibian vehicle and the visualization or the imaginative projection of this clumsy prototype's potential; in terms of the Corps' sticking to its guns to see the Alligator and the LVT emerge; in terms of the airplane as a winged supporting arm, and its growth from the Haviland-versus-Nicaraguan Bandits phase to the present MAGTF and its inherent, organic, critical close air support weapons system. The annals speak of Imagination in the form of deathless Earl Hancock "Pete" Ellis, LtCol, USMC, who died under mysterious circumstances in May, 1923 in Japanese Palau, a thinker, visualizer, projector of an entire era of United States-Japanese relationships and of their ultimate breakdown; of "Advanced Base Operations in Micronesia, 1920," which was quickly labeled Top Secret and became United States Operation Plan 712-H, and which when modified to a certain extent became an Orange (War) Plan; of the Central Pacific drive of 1943-45 based in major part on "Pete" Ellis' visualization of war with Japan and of measures necessary to win that war; of the Corps envisaged by "Pete" Ellis, "specially trained men for special warfare, using naval gunfire and aerial attack as their initial fire support means . . ."

But we need go back not to these famed Corps accomplishments to find substantial aspects of our success and our reputation based upon Imagination and its application to current historical developments. S.L.A. Marshall speaks of the 1st Battalion, 1st Marines and its attack north from Chinhung-ni toward Koto-ri in the 1st MarDiv's fight from the Chosin Reservoir to the sea at Hungnam, as a key action in unlocking the Chinese Communist bars to the Division's breakout. Marshall further narrows the focus, and selects that Battalion Commander's action in getting aerial photo coverage of the terrain subsequently traversed by that attack *five days before his attack was even ordered* as the bit of the key. That officer's laconic, "I figured I might need them," belies the true import of his action; it was based on Imagination, or visualization of a possible sequence of events and course of action to deal with them, on projection of the type of which "Pete" Ellis' fatal Pacific tour was the progenitor. Akin to this action was that entailed in the air drop of eight sections of Treadway bridge into Koto-ri, the sections which ultimately spanned the penstocks and replaced the Chinese-blown wooden structure between Koto-ri and Chinhung-ni. Well, one might say, was that not pure improvisation born of dire miltary necessity? One can respond: who foresaw or visualized the potential need for *eight* spans rather than the actual four needed (with that cushion of four lost before the span was successfully installed) ; who the special rigger flown in from Japan, by whose efforts seven of the eight spans were dropped at Koto-ri without damage; who the specialized air delivery techniques; who the plywood center sections which enabled both tracked and wheeled vehicles to cross this single span, from isolation, to combat another day? Imagination, projection of a possible development and the action to meet the hypothesized situation, was the basis.

And yet again. In 1948, late fall, a quasi-brigade designated Fleet Marine Force Western Pacific (FMF WesPac) was stationed in Tsingtao, the last United States troop element in China; it was a shadow of the mighty IIId Marine Amphibilous Corps which had landed north of the Yangtze just three years before and repatriated the Japanese troops from the China mainland. During 1948, the Communist flood poured south toward Shanghai, bypassing Tsingtao and leaving it and its Marine contingent (3000 officers and men, plus about 250 families) untouched for the time being. Communist unwillingness to risk a fight in an attempt to seize what would eventually fall from the vine, was apparently the reason. Orders were given to accomplish the withdrawal of the families and the mass of military material in that order; the troops were to follow thereafter. In the setting of the economy-minded nation and Congress and Administration of 1948, US Naval amphibious and service-force cargo ships adequate for deployment to this task were not available. Merchant Marine charter vessels were engaged, and were shunted to Tsingtao from all over the world. These were met at wharfside by that ubiquitous Marine, a Captain with well-worn MOS 03, and his equally non-specialist, jack-of-all-trades and master-of-none (that is, not usually ship-rigging) crew of combat engineers, prepared to re-rig the ships' booms to accommodate the dozens of Marine Corps heavy lifts foreign to Merchant Marine everyday activity. The day was literally saved. Why? An imaginative young Marine Major with his feet (intellectual only) on his desk, had rationalized—

Probable inadequate Navy lift
Probable Merchant Marine lift
Probable Merchant Marine light rigging
Probable necessity for re-rigging

and had come up with:

a) The Captain, 03, who lived in prior life near the Staten Island

LtCol Wilbern, who received his MA in Business Administration from George Washington Univ in 1958, is convinced the Corps' greatest asset is brain power. He wrote the accompanying article to emphasize this point. Enlisting in Sept '40, after graduating from the University of Minnesota, he was commissioned the following May. He served in WWII as a company commander with the 2dMarDiv and is presently a student at Senior School.

ferry in Brooklyn

b) The Marine combat engineers

c) The cable, the turnbuckles, the bits, bights, etc. on Okinawa in a surplus dump—

d) The flight to pick up this 'Cumasha' gear,

and had parlayed these diverse factors into a combination which spelled successful evacuation of millions of dollars of material, and avoidance of a possible armed clash of international significance, by virtue of that timely withdrawal.

"Well," one can almost hear the retort, "so always has it been and will be: the Marine, as an individual or as a group or as the Corps, will always rise and be equal to the situation." Alas, the omens of the future wars, limited and unlimited, nuclear and conventional, cold and hot, augur against this placid platitude. The complexities of war, near-war, marginal war; maneuvers and training operations; the planning at all levels from the most basic tactical to the farthest reaching strategic realms in which the Marine Corps may find itself; these and all other activities will demand the utmost of our brains. Without Imagination, without creative thought, without projective visualization of future possibilities, potentialities or probabilities, we shall be hard pressed to meet the demands placed upon us.

We must develop the processes, the techniques, the programs if need be, by means of which the Imagination capability inherent in each Marine is stimulated, nurtured, enabled to progress, enabled to be exercised.

This is in keeping with best extant theory, that all men possess the ability to think creatively, to develop new ideas, to a greater or lesser degree. This accords with Edison's saying about genius, "98 per cent perspiration, 2 per cent inspiration." It contradicts the prior theory of creativeness as being a matter of "flash of genius" reserved to only the bestowed, or chosen, few.

Further, Marines with an unusual degree of imaginative power or conceptual thinking power (call it what you will) must be encouraged to greater use of their God-given ability, as well as channelled toward roles in which that quality can be capitalized to the Corps' benefit.

These two approaches are educational, on the one hand, and operational on the other. As to the latter, I propose no Marine brain trust, no Rand Institute group sitting in Ivory Towers projecting great sweeping theories of the future Corps. I do propose that means be developed and measures taken to discover, to identify but not to distinguish, those Marines who demonstrate through duty performance, through periodic testing, through demonstration in the schools and in the educational process below discussed, an above-average endowment in Imaginative Ability. I propose further that these fortunates be slotted in the direction of assignments in which their gifts can be put to Marine Corps advantage, as well as accorded further opportunity for growth. Scientific opinion at present seems to hold that growth begets growth, disuse a tendency toward decay, or at least, a quickening reduction in creative power.

How to identify and flag this ability? One measure could be by including the characteristic "Imagination" (and a lucid definition of it) in the Fitness Report, with completion of an entry thereon an optional matter in which any such entry would be expanded upon. Further, to the Commandant special reports could be submitted of the result of duty performance, of educational processes and such, in which Imagination as a trait or quality of the individual has come to notice. By means such as these can the Corps locate, evaluate, and put to future maximum use those Marines whose creative thought ability is out of the ruck of most of us.

The education phase, in which is uncovered the Imagination, the power to create new ideas, to project, to hypothesize, can and should be a varied one. Most important, indeed, a necessity, is a permissive atmosphere in which the capability can come to light and grow to the limit of each of us and our potential. This education phase can best be accomplished in the school atmosphere: Marine Corps school curriculums of all levels could easily include such courses devoted to projective thinking about course content, or to specialized facets of the technical schooling then in process; organized and guided group thought about problems real or hypothetical related to the school generally along the line which civilian practice has labeled "brainstorming," in which groups of individuals, in free association among themselves about a stated idea or problem, bring forth their thoughts about it spontaneously. No valuation is attempted until well after the session has ended: volume, not quality, is the goal. Group instruction in, or introduction to, such fascinating fields as the Theory of Games and Operations Research doctrine could easily be accomplished in schools of appropriate level.

Nor should the group approach to the development of new ideas herein proposed be scoffed at too quickly: it's not too long ago that the Major General Commandant suspended the school year at the (now) Marine Corps Schools in Quantico and set all hands to writing amphibious doctrine. And what of the Advance Research Group of just a few academic years ago? As for the individual, the educational process in improving one's own imaginative powers can be carried out through such everyday techniques as charades, crossword puzzles, writing short stories, working acrostics and anagrams, studying permutations and combinations in the field of mathematics.

And so, with closer attention to the thinking process, with the development of processes and procedures, the Imagination/Creative Thought Power which the Marine Corps must have to keep abreast of the present, at all times in the future, can be recognized and identified and utilized to the Corps' best advantage. The task is for all of us, since each of us possesses the innate power to think creatively. For those of us in authority who are responsible for the actions and the doings and the thoughts of subordinates, the challenge and the task are keen: to get the job done with maximum efficiency, with least wheelspinning, yet in such manner that the element of permissiveness exists in sufficient degree to allow that half-suppressed thought to come to the fore, for evaluation. So, don't be too quick to roast that Lieutenant, fry that Captain, squelch that Lance Corporal: he may well be a new Corps Ellis or a new Quick. We need him.

USMC

IN BRIEF

2dLt Jacob E. Iles, honor graduate of the 5-58 Basic Class, is awarded

the Marine Corps Association sword by LtGen M. B. Twining, Commandant Marine Corps Schools, Quantico, Va.

Lt Iles attended Iowa State College for one year prior to entering the US Naval Academy. He was commissioned in the Marine Corps upon graduation from the Academy.

The son of Mr. and Mrs. Jake Iles of Mount Pleasant, Iowa, Lt Iles has been designated a student Naval Aviator and assigned to Pensacola, Fla., for basic flight training.

A "play-by-play" account of the Battle of Belleau Wood, June, 1918, is being prepared for book publication by F. Lawrence Babcock, 39½ Washington Square South, New York 12, N. Y.

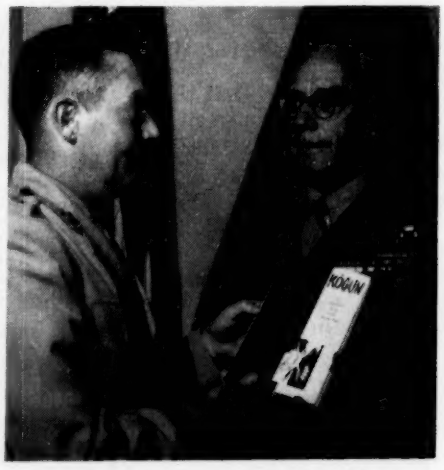
Mr. Babcock is endeavoring to reach as many participants as possible from both the United States and German sides. Anyone who can provide him with information relative to this engagement is requested to communicate with him at the above address.

A rocket-propelled capsule that can shoot a pilot to safety from a doomed plane within 2 seconds has been designed by Republic Aviation Corporation.

During normal flight the capsule is a seat. In an emergency it automatically closes around the pilot to form a protective cocoon and is shot out of the plane.

Members of the Marine Corps Combat Correspondent's Association will hold their 1959 reunion June 26-28 in Washington, D. C. BGen Robert L. Denig, USMC (Ret), Marine Corps Public Relations Director from 1941 to 1945, and Mrs. Denig will be guests of honor.

Commandant of the Marine Corps, Gen R. McC. Pate, President of the Marine Corps Association, accepts from BGen Samuel R. Shaw, Secretary-Treasurer of the Association, a



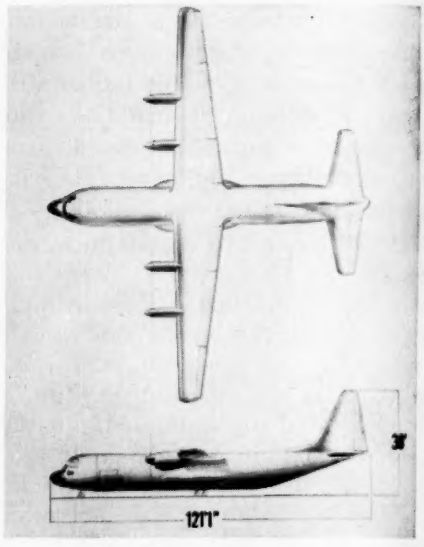
copy of *KŌGUN: The Japanese Army in the Pacific War.* This book, written by Saburo Hayashi in collaboration with Dr. Alvin D. Coox, was published last month in the United States by the MCA.

A 4-lb transistorized television camera and a 12-lb battery-powered "backpack" TV transmitter have been developed to provide the military with completely automatic lightweight television equipment able to transmit live pictures from front lines or remote locations without cables or heavy power supplies.

Called the Tele-Tran system by its developers, Thompson Ramo Wooldridge, Inc., it can send live pictures a distance of a half mile to a receiver for distribution to monitors at various locations.

Here is a twin-view drawing of the Super Hercules, a stretched version of Lockheed Aircraft Corporation's C-130 prop-jet transport.

The fuselage will be slightly more than 23 feet longer than present



C-130s and wing spread increased 13 feet. Designed for military missions and commercial airfreight hauls, the transport will be able to airlift 39 tons at less than 4 cents per ton-mile and make nonstop transoceanic flights.

A helicopter with stability characteristics comparable to those of fixed wing aircraft has been produced by Cessna Aircraft Company.

Designated the CH-1C, the aircraft is designed for reconnaissance-observation, light personnel transportation and instrument training.

A horizontal tail surface and a mechanically driven gyro give the craft controlled lateral and longitudinal

stability. It is powered by a 270 horsepower reciprocating engine located forward of the cabin section for maximum accessibility. At speeds of 80 to 105 knots, it has a maximum endurance of 5.15 hours. Rate of climb at sea level with maximum gross weight is 950 feet per minute.

SHŌGUN

The Japanese Army in The Pacific War

By Saburo Hayashi

In collaboration with

Alvin D. Coox

Published by The Marine Corps Association

A factual history of the Japanese Army and its operations in the Pacific War.

The GAZETTE BOOKSHOP
Box 1844, Quantico, Va.

***$4.50**

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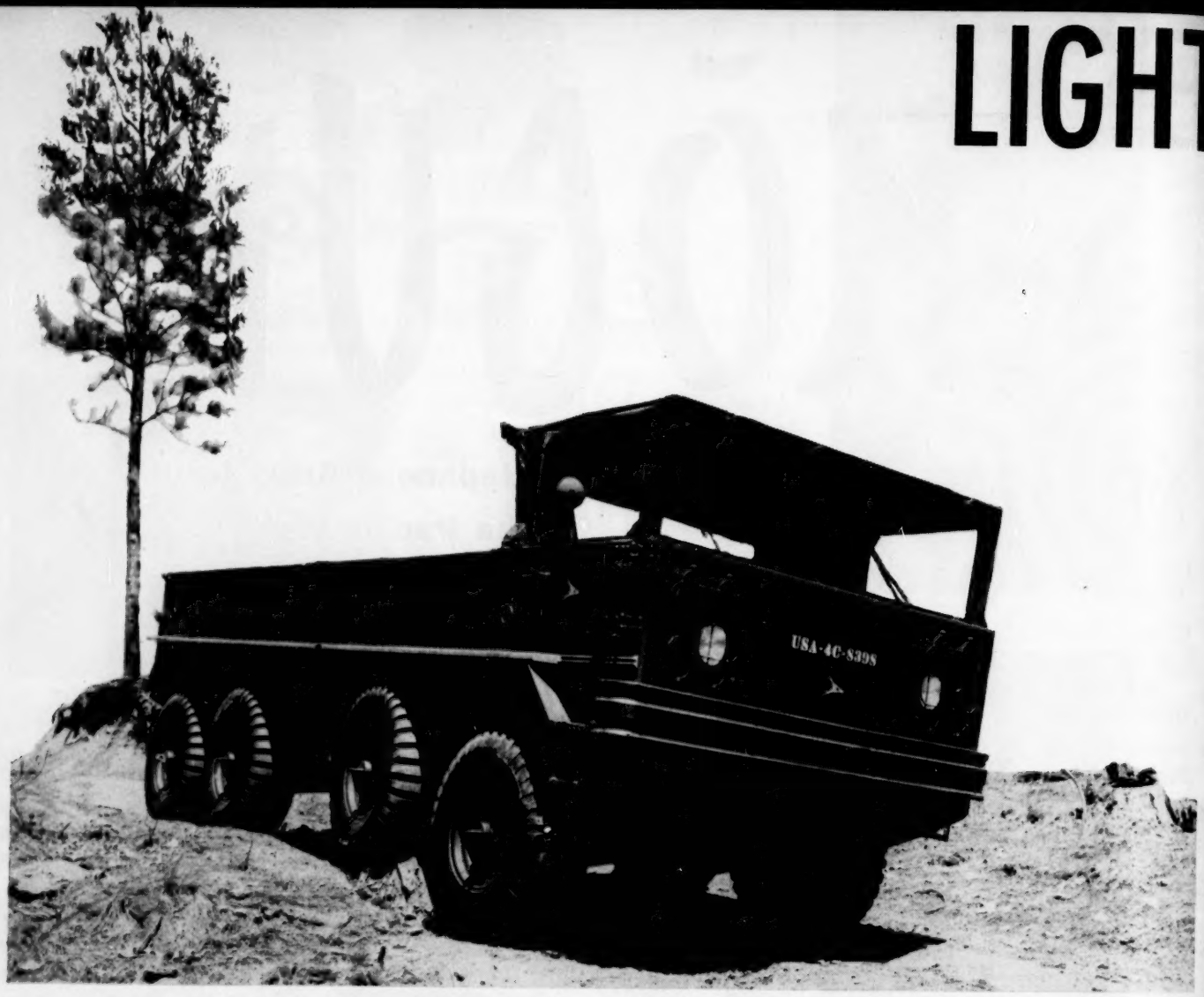
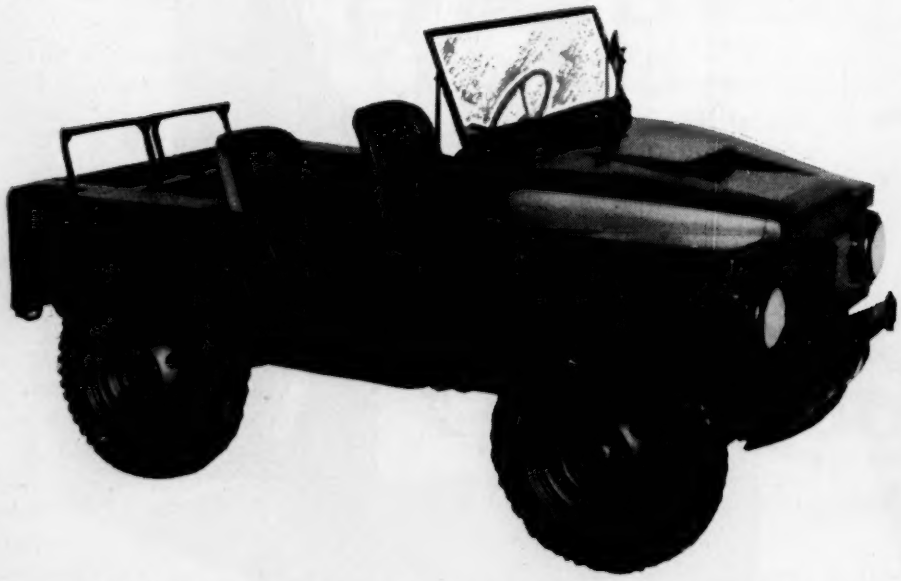
LIGHT



Chrysler Corporation's XM-410 2½ ton truck is designed to master virtually any terrain



Newest Mighty Mite has aluminum engine and body

Mechanical Mule weighs 00 lbs. A 106mm rifle an be

TWEIGHT

ROLLING STOCK

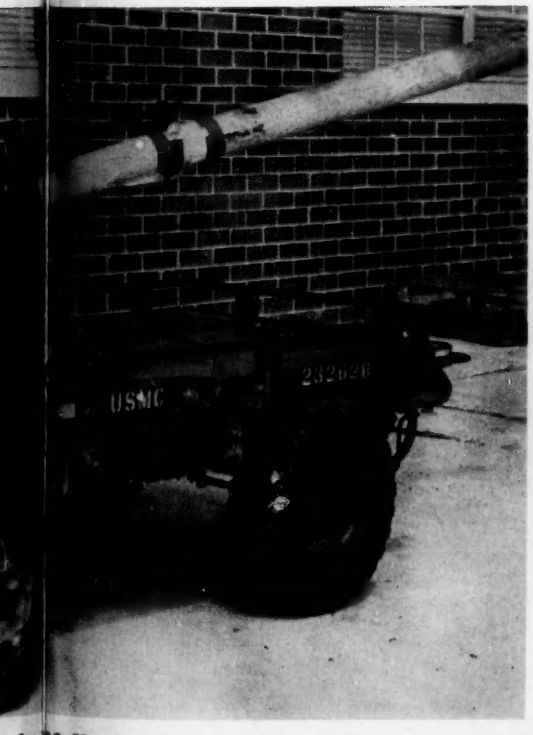
MOBILITY, flexibility and speed of movement in modern warfare requires that the fullest use be made of any available transport in getting to the scene of operations. Aluminum is making a significant weight-saving contribution in tactical and logistical vehicles and so increasing our lift potential.

Most recent addition to the stable of rolling stock using aluminum which includes the Mighty Mite and Mechanical Mule is the XM443E1 cargo-personnel carrier, built by Willys Motors and currently being evaluated at the Landing Force Development Center, Quantico.

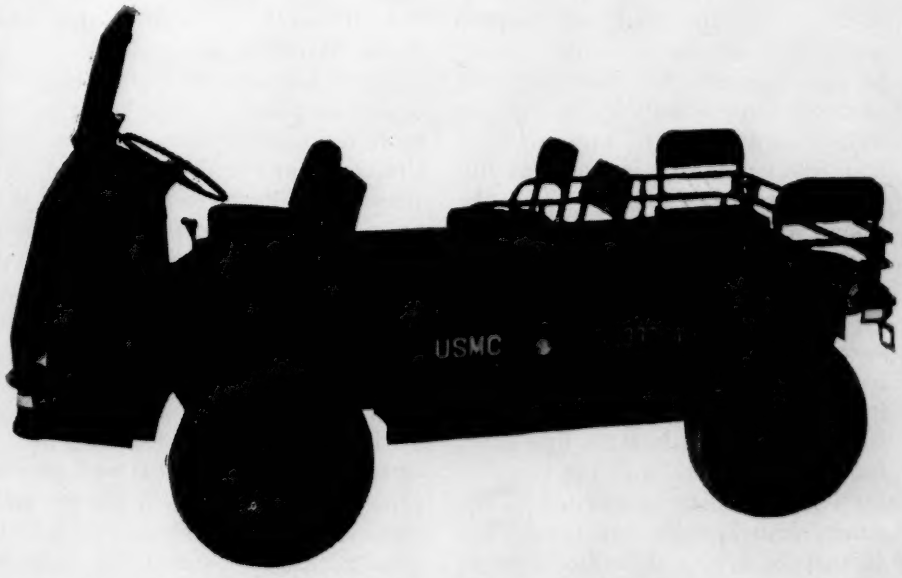
The new lightweight tactical carrier is a platform-type "convertible" similar to the M274 Mechanical Mule already included in Division tables of equipment. The XM443E1, powered by a 100hp air-cooled engine, has 6 seats and converts quickly into a truck by folding 4 seats into the platform. The experimental vehicle carries its own weight—and more. It is said to have the highest load ratio to total weight of any tactical military vehicle in its classification.

A new lightweight 2½ ton aluminum truck is now being tested by the Army at Ft. Bragg, N. C. This is the XM-410, designed to replace the old familiar 6 x 6 carriers. As a result of its aluminum construction, the new truck fully loaded weighs less than our present model weighs empty.

Other military advantages of aluminum vehicles include non-sparking, fuel-saving, protection against radiation, durability, reduced vibration and maintenance, and longer life.



ighs 00 lbs., can carry ½ ton. rifle an be mounted



The XM443E1, built by Willys Motors, has 100 hp, air-cooled aluminum engine mounted under rear platform

IF IT COMES

THE MAN WHO TELLS YOU HE has never had a spill from a horse is either an unregenerate liar or an individual who has done very little riding. By the same token, an Army that has never had to undergo retreat can have seen remarkably little active service.

No one likes having retreat forced upon him. At the best it is time-wasting, vexatious and demoralizing; at the worst it can be utterly disastrous. Yet that fine fighting soldier George Monck, firmly laid it down that "To know how to make an honourable retirement is one of the principal points of military art." Monck's implication is plain, however—that *a retreat must never be regarded as a movement complete in itself, but rather as the first in a series of maneuvers leading up to a counterattack and an advance.* Painful as it may be at the time, retirement is more than worth it if it turns out to be the prelude to victory—as it has proved to be on more than one occasion.

Many combinations of circumstances can arise that will impose momentary retreat on a body of experienced troops. Of these the most obvious is an assault by an equally well-trained enemy possessing a transient superiority in numbers and preponderance of fire-power. As the bough bends to the overwhelming onrush of the hurricane, so does the outgunned and outnumbered force give way under the irresistible pressure brought to bear on it. To yield to such a concentration of force is excusable. The thing that matters is what happens when the first shock has been absorbed and the immediate pressure has slackened. The sturdy bough does not break, but springs back. So should a fighting force worthy of the name.

A perfect example of this type of temporarily enforced retreat, and its sequel, is to be found in the slow, steady withdrawal of the Franco-British forces in the September of 1914. Under the initial hammer-blows of the Germans, the Allied line was bent and pressed back. But it did not break. It held, and in due course it regained the resilience which enabled it to swing forward again so that the Germans, in their turn, found themselves committed to a retrograde movement, which was only halted when the Allied counterstroke lost its impetus. Then followed the British race northwards to try and get round the German right flank. But the area of maneuver was too constricted; the frontier of Holland curtailed the attempted encircling movement, and the struggle bogged down into trench warfare and the costly processes of attrition which characterized the ensuing three years.

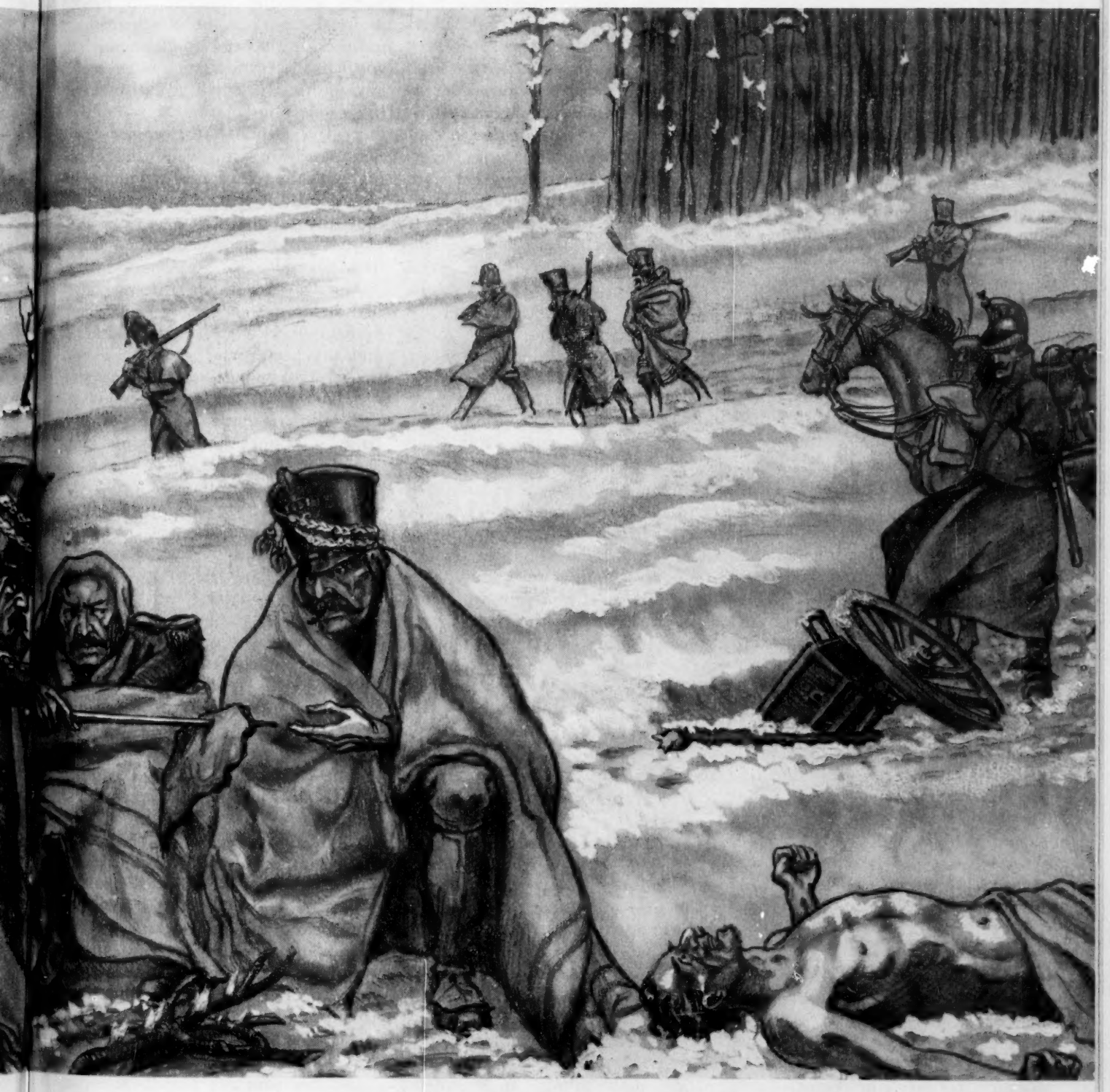
Again, in the early days in Korea, the weight and velocity of the NKPA surge over the 38th Parallel was initially so overpowering that the ROK Divisions and the few under-strength US formations immediately available, found it impossible to do more than slightly slow it down. Retirement into and the dogged defense of the Pusan perimeter was the only course to pursue—retreat and a holding action, in effect, that would afford the necessary time for a build-up to be set in motion which, in due course, would swing the pendulum the other way.

At first sight there appears to be a distinct affinity between the Mons retreat of 1914 and that retirement inflicted on the British Third and Fifth Armies by Ludendorff's whirlwind offensive of March 1918. In both instances the defense line buckled

S TO IT

By Reginald Hargreaves

"The test of a good General is to know when to retreat, and to do it."
Field Marshal Lord Wellington.



Maj Hargreaves, M. C. (British Service), is the author of dozens of published articles and several books on military topics. He first started to write for US military publications as part of a desire to foster goodwill, understanding and the exchange of ideas between the services of the two English-speaking peoples. He was retired for medical reasons in 1921 after service in India, Egypt, France and Gallipoli.

and gave, only to "dig in its toes" at a certain point and stand firm. For all that, the resemblance between the two episodes is purely superficial.

In 1914 the swing-back followed speedily on the moment when the enemy advance had been brought to a standstill. In 1918 the British line, starved of troops through the misguided and mischievous orders of the Prime Minister, David Lloyd George, was compelled desperately to hold on while fresh but inexperienced forces completed their training and acquired the battle-worthiness which would compel the Germans to retrace their steps. To begin with, the assimilation of reinforcements sent out piecemeal was a slow and difficult process. For there had been many casualties amongst Commanders and Staff, and considerable disorganization. To go on with, the majority of the drafts coming overseas were made up of raw 'Hostilities Only' personnel, whose sole training having been for trench warfare, were entirely lacking in all instruction in and experience of the open warfare so clearly foreshadowed. It was not until the August of 1918 that the necessary indoctrination in war of movement had been carried to the point where a return blow could be launched; an offensive which never halted until the Armistice was declared on November 11th.

Actually, Ludendorff's gamble sounded the Germans' death-knell. It was designed as a tremendous final blow, an effort into which the High Command put all their very last resources. But it failed to drive a wedge between the French and British Armies, to force the former back on Paris and the Loire and the latter onto the Channel ports. A certain amount of arid, battle-ravaged territory had been surrendered, but once again it had been demonstrated that *there is no value in capturing a geographical objective without achieving a military decision.* Above all, the elastic had been so extravagantly overstretched that it failed to stand up to the strain and snapped back onto Ludendorff's hands. Thus when he in his turn was forced into withdrawal, his troops lacked the material resources and the spiritual resilience to stage a counterstroke. It was a retreat into collapse; rendered all the more certain by the welcome appearance on the field of the fresh and vigorous forces of the United States.

For much the same reason the Germans' Ardennes offensive in the December of 1944 was another of those hit-or-miss gambles, which could only find justification in the desperate condition of von Runstedt's troops, and the open invitation embodied in the dangerous over-extension of the Anglo-American forces. Had it succeeded, Gen Eisenhower's Armies would have been split in twain, with the northern group completely severed from their bases, and another 'Dunkirk' at least a lively possibility.

At the outset, luck was with the gambler. Indifferent Allied Intelligence had given no real warning of the imminent blow; bad weather had cut aerial reconnaissance to a minimum; while the forbidding Ardennes appeared the least likely terrain in which to stage a winter offensive. SHAEF was undoubtedly caught with its guard lowered. But the invaluable American stand at the vital road center of Bastogne broke up the impetus of the enemy onrush and set it swirling and stumbling about this obstacle in the path of what had been designed as a headlong advance. With the most dangerous point of penetration up against the unbreakable resistance of the US 101st Airborne Division, and the built-up haunches of the salient too firm to be assaulted, the weather lifted sufficiently for an Anglo-American fleet of 5,000 aircraft to sweep in and fall on the enemy's vital supply columns. Then, with Patton's Third Army striking up towards Bastogne and the US First Army and part of the Ninth bringing pressure to bear from the north, von Runstedt was in such danger of having his battlefield isolated that he was left no option but to pull out. And although the subsequent Rhine crossings involved stiff fighting, with the failure of the Ardennes offensive the Germans had virtually shot their bolt. Once again the elastic had been overstretched and had snapped.

Among other things, the episode had demonstrated the need for a far keener Intelligence appreciation, and the precarious nature of even the most up-to-date communications network; while the employment of the cordon system as a means of defense was once more exposed as "good only against smugglers"—as Napoleon had pointed out well over a century and a quarter previously.

One of the most dangerous and ungrateful forms of retreat is that forced on a body of troops by the defection or collapse of an ally.

A typical example of this sort of betrayal and its consequences is to be found in the story of Gen Sir John Moore's retirement over the barren mountains of Galicia, during the campaign in the Iberian Peninsula of 1808-'9.

The French invasion of Portugal had collapsed with Marshal Junot's defeat at Vimiero, and a British army of 36,000 men had been sent to the support of the Spaniards. Unfortunately, it was speedily made clear that the Spanish Regular Forces were entirely lacking in cohesion and even the most elementary supply system, and were commanded, moreover, by Generals distinguished by nothing but their personal decrepitude and abysmal military incompetence.

At this juncture Napoleon, who was resolved to wipe up the war in Spain before turning his attention to the troubles brewing in Austria and Germany, suddenly burst into

the country at the head of 150,000 veteran troops. In a series of shattering blows, he crashed through his adversaries' center, hurled the Spanish left back into the Asturian mountains, broke their right into fragments, and entered Madrid in triumph after less than a month's fighting.

With dogged loyalty to the common cause, Moore resolved to strike a blow at an isolated French corps in the north, under Soult, in the forlorn hope of giving his Spanish allies a chance to pull themselves together and reorganize. It was a bold move, but it was prudently accomplished by the careful survey of a potential line of retreat to the coast.

Soult's Cavalry was contacted and put to rout at Sahagun; but Moore was given little time to relish his victory, since the news was brought to him that Napoleon had moved 20,000 men two hundred miles in ten days, very seriously to threaten the British right flank.

Since the Spanish forces appeared to have dissolved completely, Moore had no alternative but to beat a retreat over the inhospitable, snow-covered mountain range that lay between his army and the transports he hoped would be awaiting him in Corunna. Maneuvering skilfully, the British Commander checked the enemy pursuit so sharply at Benevente that he was in no danger of being pinned down and unable to disengage his rearguard. And he continued to avoid commitment to a full-scale battle in which superior numbers would have had every opportunity to overwhelm him. The prime difficulty with which he had to contend was his own troops' resentment at having been ordered to retreat at all! Cock-a-whoop at the stinging blow they had dealt to the French advance guard, aware that in petulant disgust Napoleon had handed over the pursuit to Marshal Soult, and entirely unable to appreciate that unless they reached the coast as speedily as possible they would perish of hunger and exposure, their sense of frustration found expression in a sullen indiscipline that only the sternest measures served to check. They pulled themselves together magnificently, however, when with their arrival at Corunna, they discovered that the French would have to be soundly beaten before the question of getting aboard the transports could arise.

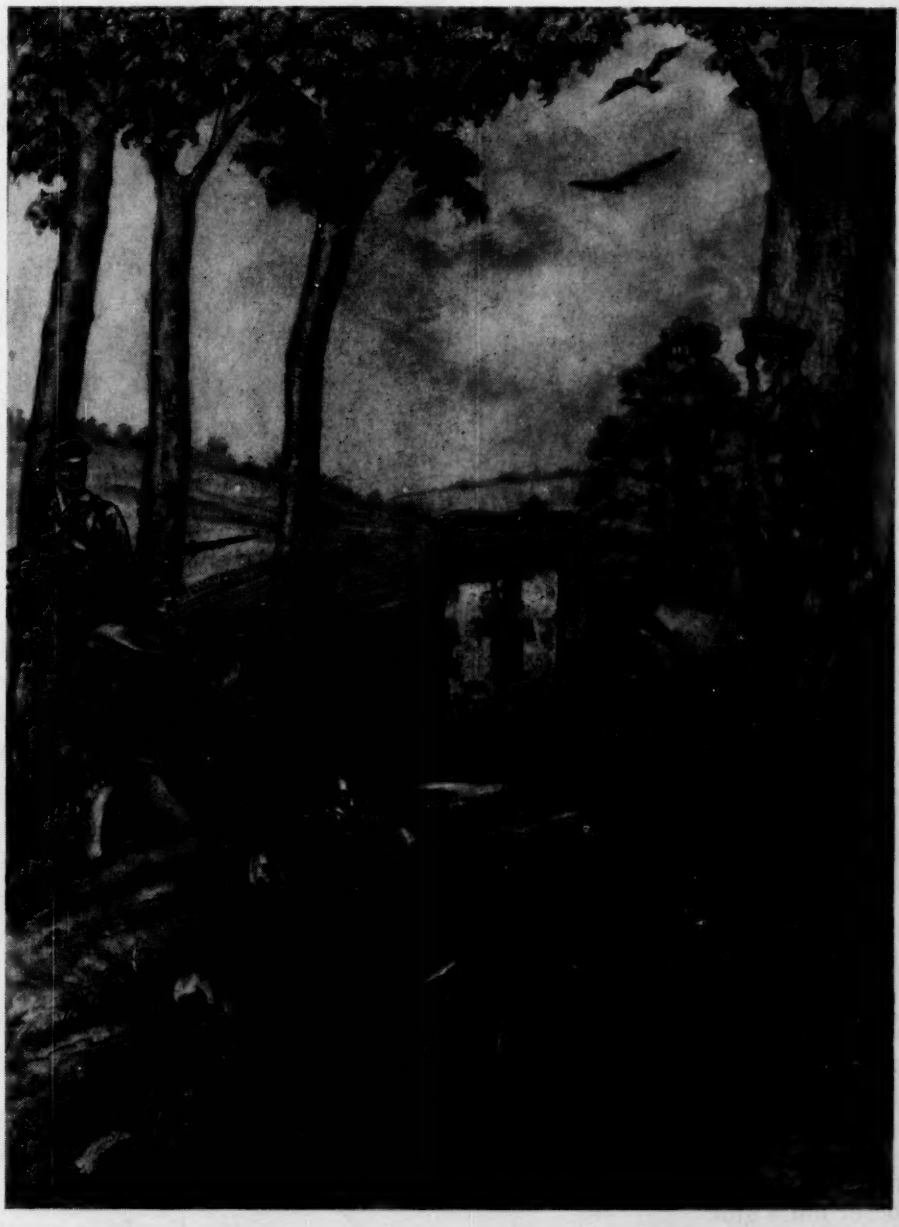
In the ensuing action, although Moore himself was slain, the French were rocked back on their heels so severely that they made no further attempt to interfere with the tricky business of embarking the troops for England.

Superficially, Moore's retreat on Vigo and Corunna was a severe reverse. None the less it served entirely to dislocate Napoleon's plans, and can assuredly be regarded as the first nail driven in his coffin.

But the Spaniards can scarcely be absolved from the reproach of having failed their ally and committed him to a situation which, if in any way mishandled, would have ended in disaster.

In much the same fashion, it was the defection of the Belgian troops, on the left of the French Seventh Army and the British Expeditionary Force, and the dissolution of the Gallic defense in the center, which drove the isolated Anglo-French northern contingent into the retreat on Dunkirk. Thereafter, disaster was only averted by the miracle of improvisation that lifted some 336,000 troops from the gaping jaws of the trap that sought so eagerly to engulf them.

When operations in support of the Spaniards were reopened in Portugal in 1809, under the future Lord Wellington, a deliberate retreat to a



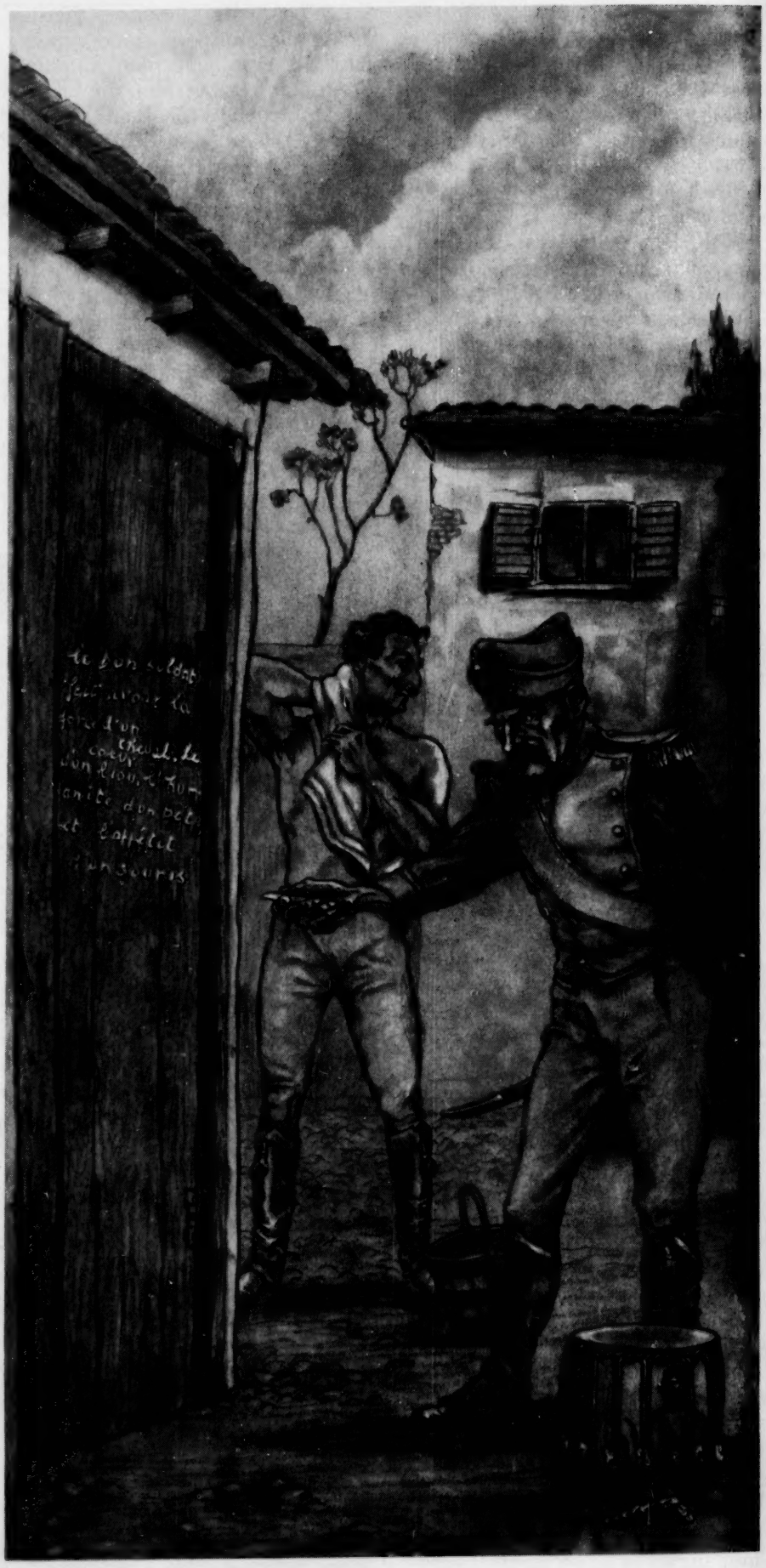
Retreat, August-September, 1914

position previously prepared and fortified was a specific strategic move undertaken to facilitate two complementary designs. The first was to gain time for the reorganization and build-up of the Portuguese Army. The second was to commit the French to a barren, comfortless area at the end of an extremely lengthy line of communications, over which it was becoming increasingly difficult to forward even the minimum of supplies.

Having stood up successfully to Marshal Victor's heavy assault at Talavera, where, in the French Commander's opinion, "The English were beaten but would not run," Wellington retreated to his virtually impregnable Lines of Torres Vedras. They stretched for 25 miles from the sea on one flank to the river Tagus on the other, and were 8 miles in depth. The forward positions contained 120 redoubts, bristling with 600 guns. In front of them the country had been swept bare, the sides of the hills and streams scarped, the roads destroyed, the woods cut down, and the villages razed to the ground. With the French principle of living, as far as possible, on any country they invaded, this committed Soult to existing on remarkably short commons, since the lines of communication along which he hoped certain basic requirements would reach him, stretched right across Spain and over the Pyrenees. They were, moreover, subject to constant attack by the swarming Spanish guerillas, whose tireless activities played havoc with such meager supply trains as took the road. So painfully reduced were the rations that Soult contrived to dole out to his unhappy troops, that one half-starved *voltiguer* scribbled on the door of the shattered barn that formed his billet, "A true soldier should have the courage of a lion, the strength of a horse, the patience of an ass, and the appetite of a mouse."

In the upshot, it was Soult who was forced to embark on an undernourished and disordered retreat; which Wellington followed up to such good purpose that it was truly said of him that in the ensuing campaign he "never lost a battle and never lost a gun."

In effect, the British Commander had grasped and taken the fullest ad-



"and the appetite of a mouse"

vantage of the fact that the French dared not concentrate for long to fight, since only by dispersion could they hope to provision themselves. Spain, in short, was a terrain in which a small force could be overwhelmed and a large army, with precarious lines of supply, was condemned to starve.

A stroke of luck will often reward a Commander who exhibits the resolution to take a difficult situation firmly in hand and, by cutting his immediate losses, spare himself and his troops even greater sacrifices.

Such was the case when Washington sought to extricate the Continental forces after their rough handling by Gen Howe in the Long Island battle of August 1776.

No more dangerous situation can arise than for an army to be forced into a withdrawal with a water obstacle on its immediate rear; and that is precisely the dilemma in which Generals Sullivan and Stirling found themselves on the evening of August 27th. It is true that they had a strong defensive position in the Brooklyn Heights; but, badly battered and disorganized as their forces were, it is questionable if they could have held on in the face of determined assault. Fortunately for American destinies there were current political reasons why Howe should not press his advantage with any particular urgency. But it was obviously not a situation that could continue long unresolved. With ready resource, therefore, Washington assembled a fleet of small boats, manned by the fisherfolk of Glover's 14th Continentals, who were expert in their management; his design being—under cover of a rearguard—to transfer all the Colonial forces to the New York side of the intervening East River.

But there still remained the British Fleet under Adm Lord Howe, with which to reckon; and the ferry area was perfectly accessible to the heaviest ships of the line. At the crucial moment, however, a furious northeasterly wind and a strongly-flowing tide ensured that the warships remained well away from the points of evacuation. Then as the wind subsided, a mist settled down over the scene which was sufficiently dense to hamper movement in the open roads, but not so thick as to interfere with the steady transfer of the Continental forces across the extremely tricky water obstacle.

From all accounts, the standard of discipline maintained throughout this severely testing operation was remarkably high; an unusual state of affairs in the demoralizing atmosphere of retreat, but one to which the success of the withdrawal can largely be attributed.

A slackening of discipline, indeed, is one of the most disturbing characteristics of most enforced retreats. It is as if the man in the ranks regarded the necessity to fall back at all as a gross betrayal of trust on the part of the Commander in whom he has been led to put his faith. With his normal, ordered world apparently dissolving in chaos all about him, his confidence in those who have hitherto guided his destinies unquestioned, begins to falter. Authority is seen not to have been omniscient; belief in its powers begins to waver; and with that, command itself loses some of its ability to exercise the necessary authority. The outcome is a slackening of discipline just at the very moment when the need for it is most urgent. And the more raw the troops, the less they have been subjected to the discipline of the parade ground and the drill Sergeant which breeds self-control and an instinctive obedience to orders, the speedier will be their descent into indiscipline and outright license, the precursors of panic and wholesale demoralization. It was the men of some of his Line Regiments, transferred "on bounty" from the ranks of the Militia, or posted, after the briefest of training, from the depots, who called down Moore's sternest reproof on the retreat from Corunna. It was the Guards Brigade and —after one or two delinquents had suffered immediate and exemplary punishment—the riflemen of the "Greenjackets" who set the example of unfaltering discipline throughout; the latter being entrusted with the difficult role of rearguard for nearly the whole period of withdrawal. It was want of discipline rather than lack of spunk that sent the raw Federal troops stumbling headlong from the field at First Bull Run.

It was the almost complete breakdown of discipline that added the final touch of horror to the most notorious and terrible retreat since the days of Fabius Cunctator—that of Napoleon's *Grand'Armée* from Moscow.

To stage an advance into enemy territory without first ensuring adequate support in both men and materiel, is to invite the sort of reverse that ends in retreat. And that was precisely the mistake made by Bonaparte—always a military gambler—in his Russian campaign in 1812.

It was in the May of that year that the little Corsican determined to invade the Muscovite kingdom with a motley, polyglot army totalling 600,000 officers and men. Of this huge force only 370,000 were Frenchmen; the rest of the Army being made up of Austrians, Dutch, Germans, Illyrians, Irish, Italians, Poles, Prussians, Swiss, and even a few Spaniards and Portuguese.

To support the advance, which was to be made by way of Vilna, huge supply dumps had been established at Modlin, Thorn, Pillau, Danzig and Magdeburg—all dangerously far in rear. At the outset, the troops were issued 15 days' subsistence to carry them over the first stage of their approach march. As is invariably the case when this hazardous procedure is adopted, the bulk of these rations were either wolfed within a few days or thrown away. This inconsequent disposal of their victuals was encouraged by the call on the troops to keep up their marching pace throughout an intense heat wave, which exacted a toll of 60,000 casualties before the formations reached their forward assembly areas.

Having "crossed the Rubicon" by making the passage of the Niémen, Napoleon found himself committed to the somber, empty wastes of Lithuania; where the sweltering heat and violent, sultry storms added appreciably to the returns of the dead and ailing; while hundreds of irreplaceable horses fell victim to the colic induced by consuming green rye. In the fifty-mile march from Kowno to Vilna 10,000 of these wretched animals perished by the wayside.

And all the time the Muscovite enemy fell back steadily and sedately behind a screen of Cossacks; coldbloodedly carrying out a ruthless "scorched earth" policy that turned a naturally unwelcoming countryside into a howling wilderness. By their deliberately controlled with-

drawal, the Russians were trading territory for the steady attrition of their opponents' strength and warlike resources, which they were confident would become progressively more acute as they were encouraged to pursue their advance.

Three times—at Vilna, Vitebsk and Smolensk—the Emperor sought to pin down the elusive Muscovite forces and bring them to a full-scale encounter battle. But on each occasion they eluded him. For depite the sharp and costly action between the Tsarist rearguard and the Gallic advance guard at Smolensk, the Russian main army declined to engage too closely and thereby court defeat. The geography of their extraordinary country enabled them to employ those tactics of evasion which, by steadily attenuating their enemies' line of communications, rendered them progressively more vulnerable. And time was passing, with the cruel Northern winter not far away.

Yet both politically and militarily, it was essential that the Tsar should be defeated. For as Wellington sagaciously pointed out, "A conqueror is like a cannon-ball, he must go on; if he rebounds his career is over." So, heedless of all cautionary advice, Napoleon obstinately pressed forward.

The Russians' first real stand was at Borodino, a battle fought for the defense of Moscow. But it was a contest in which the Tsarists had only to contrive a drawn battle to be mathematically sure of winning the campaign. If in the outcome Gen Kutusov failed to save Moscow from occupation by his enemies, equally Napoleon was entirely unable to annihilate the Muscovite army; which disengaged and drew off into the illimitable space that was Russia, to reinforce and regroup.

At noon on September 15th the Emperor entered Moscow. But it was the entrance of an actor to an empty theatre. The Russians had evacuated the capital, save for the lurking incendiaries who swiftly had the city ablaze, so that the Kremlin, where Napoleon was installed, was speedily ringed by a raging sea of fire.

For a whole month the Emperor stayed on in Moscow, hoping against hope that his covert overtures to the Tsar would yield him an offer to negotiate that could be dressed up to look like a victorious treaty. He was menaced by Tomasov's force from the south and by Wittgenstein's from the north, while Kutusov's army hovered threateningly in the neighborhood of Moscow itself. As always when invading foreign soil, Napoleon had legislated for his army very largely to subsist itself out of the fruits of the countryside. But the only products yielded by Muscovy's bleak tundras were wolves and Cossacks. Moreover, the Gallic lines of communication, stretching for 550 miles, lay open and exposed to incessant partisan raids; little was getting through, and with the scant local resources well nigh exhausted the *Grand' Armée* was dissolving before its Commander's eyes. Berthier, the Chief of Staff, anxiously scanning his strength reports, was appalled to discover that the Ist, IIIrd and Vth Corps, plus the Guards and Murat's Cavalry, totalled a mere 93,212 of all ranks; 185,778 effectives from the formations having been lost since the crossing of the Niémen.

On October 13th the Emperor bowed to the inevitable and gave orders for retreat. A more southerly route was chosen for the retirement so as to avoid the devastated line of march taken in the advance from Smolensk.

Reinforcements having at last reached Moscow, the total that set out on the return road reached 87,500 Infantry, 14,760 Cavalry, and 533 guns; both the *arme blanche* and the Artillery being desperately short of horses. At the outset, at any rate, a certain amount of food was available; and the men set forth in good heart at the prospect of returning home from this barren and repellent Russia, where even the very stillness seemed loaded with brooding menace.

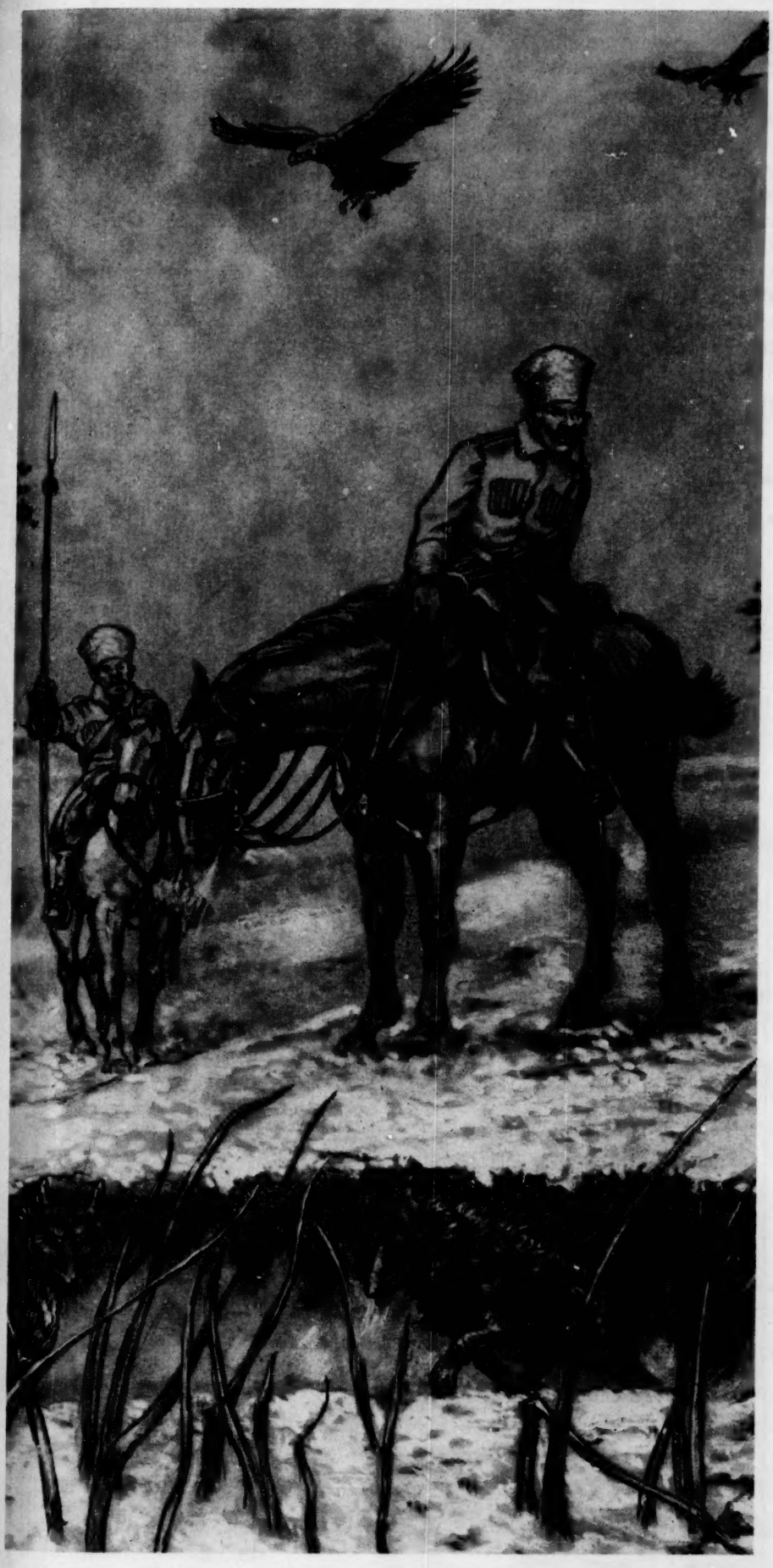
The first setback occurred when Murat's poor showing at the skirmish of Winkovo—which cost 3,000 of the precious Cavalry—was followed by Prince Eugène's failure to clear the Russians from their roadblock at Maloyaroslavets. For this necessitated a change of route to the old, desolated road from Smolensk. And along that ravaged *via dolorosa* "the villages which recently had provided shelter were levelled to the ground; under their ashes were the bodies of hundreds of soldiers and peasants"; while a little farther on "was the field of Borodino, where the forty thousand men who had perished there still lay unburied."

Then Winter struck, with the suddenness and completeness that only Northern climes can know; and the slackening discipline which had resulted in the capture or slaughter of many hundreds of stragglers, deteriorated still further under the baneful influence of privation and sheer physical misery. As rations became scantier and scantier, so more and more marauders strayed from the ragged, slipshod column in search of food and forage; to be speared by the ubiquitous Cossacks or hacked to death by lurking partisans.

Blinding snow storms brought the army floundering to a standstill even before it had reached Smolensk; and after that burnt-out, shattered city had been passed nearly everyone stumbled along on foot. With the temperature at minus 20 degrees Réaumur, the horses had perished as much for want of water as from lack of fodder. Many of them, whose shoes failed to grip the ice, were too feeble to struggle up again once they had fallen; and even before they were dead the famished soldiery would slit their bellies open to get at the steaming entrails.

Hundreds upon hundreds, overcome with the bitter cold which froze their hands to their weapons, cast away their arms; and typhus, spread by the swarming lice, took a steadily mounting toll of the ranks; the "green wood" amongst the more recent reinforcements, who huddled together for mutual warmth, suffering by far the worst. Only the handful of officers and men who formed the rearguard under the indomitable Marshal Ney, never lost heart. Day after day they turned to fight off the Cossacks crowding on their heels; the erstwhile barrel-cooper's son, in his torn and bedraggled Marshal's uniform, handling his musket like any ordinary soldier, justifying again and again the proud title of "the bravest of the brave" he had won so worthily at Friedland.

Both sides converged on the Beresina river almost at the same moment; the Russians arriving so little ahead of the French that they only succeeded in slightly damaging the one bridge over the stream they had set out to destroy.



Wolves and Cossacks

For a moment Napoleon roused himself from the lethargy in which he had been sunk, to show a flash of his old military skill. By a brilliant combination of deception and resourceful tactics he succeeded in getting such of his exhausted force as remained under arms safely across the stream. It was only with the horde of stragglers and camp followers that the fire of the Russian advance guard played havoc, so that panic set in as the fugitives fought and struggled to win their way to safety. Such was the disorderly scramble that one of the temporary bridges collapsed under the weight of its human burden. And although the second bridge was not demolished by the sappers until the tide of frantic humanity had ebbed a little, in all some 10,000 of the fleeing mob were trampled to death or drowned beneath the ice-flows.

Napoleon had already hurried on to Paris; and it was not until December 12th that a few thousand gaunt, famished, frost-bitten, disease-ridden survivors of the once-mighty *Grand' Armée* staggered across the Niémen into the relative security offered by the walls of Kowno. They were no longer disciplined soldiers; they were scarcely men. They were the detritus of the most compendious, terrible and costly retreat in the history of arms. (In the matter of cost, it is true that with the exception of Regimental Surgeon Brydon, three camp followers, and a few prisoners, every member of the Kabul Field Force, in the Afghan War of 1841, perished miserably. But the total of troops engaged came to less than 4,500.)

If from one cause and another, retreat is ineludible, then the first necessity is to ensure—as Flavious Vegetius Renatus emphasized so long ago as AD 375—"that your men do not imagine that you retire to decline an action, but believe your retreat an artifice to draw the enemy into an ambuscade or more advantageous position where you may the more easily defeat them in case they follow you." To *reculer pour mieux sauter,* to coil the spring so that it may gather vigour, is a process that in no way justifies disheartenment. Indeed, providing everyone, from the highest to the lowest, steadfastly resolves that retirement is no more than a particular method of prepar-

ing for an advance, retreat can offer positive advantages.

To begin with, it is a moral certainty that the enemy will speedily outrun his supplies and heavier support weapons. Once this state of affairs has arisen, his whole outlook becomes haunted by the demands of replenishment and reorganization. The retreating force, on the other hand, is falling back *on* supplies, and should always be able to disengage its heavy support weapons and re-position them to bolster up any further withdrawal. Reorganization will always be a primary care, but replenishment should offer few difficulties. It is inevitable that in scrambling forward the enemy will, metaphorically speaking, get more than a little out of breath. It is at those moments, when he is panting and generally off balance, that a well-organized counterattack can jar him back on his heels. Thoroughly integrated and well supplied "resistance groups" should always be left behind to operate in rear of an enemy drive. Not only can they materially help to disrupt the hostile line of communications, but by radioing information they can helpfully influence dispositions for prolonging the defense, and aid the Commander in determining the most propitious moment for striking back. The attempted suppression of their activities also serves to 'milk' the enemy's main battle line of large bodies of active troops.

The real art of conducting a retreat lies in knowing how to disengage so that neither main body nor rearguard are ever pinned down. To ensure this the Commanding General must never be afraid of trading territory for freedom of movement. It follows that there are some Commanders who should never be entrusted with the conduct of a withdrawal, since their judgment, and therefore their mental flexibility, is hampered by what can only be termed a "territory complex." They just cannot sense when to change grip. They hang on to what has obviously become an impossible position just because it goes against the grain to yield an inch of ground. Through this obsession, this rigidity of outlook, they lose all sight of the fact that it matters nothing whereabouts in the ring the other fellow is knocked out; that no matter *where* it may be delivered, a K.O. settles the business.

Hitler, for example, suffered from a most disastrous "territory complex"; he never knew when to trade terrain for flexibility of movement; and this characteristic defect helped materially towards the consummation of his ruin. By his explicit direction, for instance, Field Marshal Paulus hung on in front of Stalingrad when quite obviously he should have beaten a retreat to conserve his forces; with the result that 22 German and satellite Divisions went "into the bag."

A certain moral value attaches itself, of course, to the occupation of an opponent's capital, or one of his big industrial centers. But unless the objective also possesses a strategic value, it can tie up more troops than, in the long run, it is found to be worth. The Prussians in 1871 did not win because they successfully besieged Paris, but because they inflicted unequivocal defeat on the French field armies. The Allies did not win in 1945 because the Russians captured Berlin, but because the German forces in the field had been fought to a standstill.

Provided there is a devoted, hard-fighting rearguard to dig in its toes, the counterstroke can be organized behind the stout buckler it provides. And nothing heartens a rearguard and stiffens its powers of resistance so much as the knowledge that such a counterstroke *is* in course of preparation.

There is no disgrace attaching to a planned and orderly retreat. For "retreat in war," wrote that Peninsular and Crimean veteran, Gen Sir George Bell, "is in no way inferior to brave charges, as having less of fortune, more of discipline, and as much of valour."

Finally, when things look bad and difficulties appear almost insuperable, the best tonic in the world is to consider those that are bound to be plaguing the enemy.

There are no hopeless situations, only men who become hopeless about them. USMC

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Col R. D. Heinl, Jr., USMC

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Reply to Wing Commander Gellner

By 1stLt J. Kenneth McDonald, USMCR

Ed: Several rebuttals to Wing Commander John Gellner's prize-winning essay, *An Ethos for the Professional Soldier of Today, Gazette, January 1959*, have been submitted. This one was adjudged the best.

AS ONE WHO IS INTENSELY PROUD of the Marine Corps' traditions of professionalism, I was appalled at Wing Commander Gellner's prize article "An Ethos for the Professional Soldier of Today." In my opinion WCdr Gellner has undertaken to defend those military characteristics which are for the most part extremely detrimental to true military professionalism in the service of a democratic state. I must, of course, at the outset point out that in some of his platitudes on soldierly virtues his views are unexceptionable if not particularly original. However, I find his historical analysis fallacious, and his proposed "ethos" totally unsuited to the Marine Corps in particular, and to the American military in general.

The article in question is divided into three sections. First, the case is made against the citizen armies which have fought all the major wars since the French Revolution. Secondly, the citizen army having been dismissed as an historical misfortune, we are informed that its day is over, and the war of the future will be fought exclusively by professionals. Finally, we are presented at length with the new professional ethos, the requirements for creating an elite "warrior class."

The first two sections of this article, concerning the past of the citizen army and its future, if any, offer a rare example of the repeated twisting of historical examples to fit an argument. We are confronted with the flat statement that ". . . military history clearly showed that regular troops remained invariably superior to the civilians-turned-soldiers . . ." Napoleon's armies which conquered Europe, the armies of Grant, Lee and Sherman, the German and Allied armies in WWI, and the opposing armies in WWII (including some half a million US Marines) were all citizen armies. In these examples of the modern "total war" the question of fighting with professional regular troops is academic, for the methods of modern warfare and the ideological nature of these conflicts precluded their being fought in the 18th century manner with small highly trained (and often mercenary) professional regular troops. Nevertheless, it seems enormous presumption on the part of the author to dismiss the superb fighting forces which have been fielded of 'citizens-turned-soldier" as merely acquitting themselves well ". . . considering (their), on the average, limited training and lack of martial spirit." We cannot allow WCdr Gellner to claim that the Marines who landed on Guadalcanal were an example of the superiority of regular troops over citizens lately turned soldiers, for we know the composition of the 1st MarDiv at that time. The prime example of the futility of the citizen army is sought in WWI. To illustrate the point, an analogy which occurs in C. S. Forester's novel, *The General,* is presented, an analogy which compares the brutal repeated frontal assaults on the Western Front with the efforts of savages to extract a screw from a piece of wood by brute strength. But the author must shortly admit that in point of fact the savages were the old line "warrior class" professionals, who refused to change their concept of war to the new conditions. Actually, this Forester novel is a magnificant rebuttal to the military ethos proposed by WCdr Gellner, for it is the story of a British regular officer of an elite cavalry regiment with an ethos or code similar to that presented by the author. Forester, with some sympathy, shows how this officer rises from Maj to LtGen in command of a Corps in WWI by conscientious adherence to the professional ethos of the old regular British Army, and how this ethos allows him to send thousands of citizens-turned-soldiers to senseless slaughter, all in good conscience. WCdr Gellner only comments that it was "paradoxical" that it was the professional "warrior class" officers who refused to change from the "crude old methods." But was it?

From this dismissal of the citizen soldier, the author turns to a unique appraisal of the current situation. For some reason he has decided that the Korean War marked the end of the citizen army although, in point of fact, for the United States at least, this war was fought with citizen

soldiers, even to the extent that the Marine Corps had to fall back on Selective Service for a period. This war did not, as the author claims, mark the end of the infantry replacement with only 10 weeks basic training behind him; any Marine 2dLt who went out with but 5 months Basic School behind him knows what training he could expect of his riflemen replacements. From the example of this war, the author arrives at the conclusion that the use of citizen armies has been relegated to history, even in the minds of the public. I wonder.

The final, and crucial portion of the author's thesis is the conclusion that the necessities of modern war make essential the creation of a "warrior class," an elite of professional military men who will be effectively separated from the surrounding community. As I mentioned before, many of the military virtues depicted are commendable, but the conception of the professional military as a class isolated from the other professions is certainly antithetical to the whole American military tradition. We see the author's inspiration when he presents the military codes of the Prussian army and of the Japanese officers' *Bushido* as the epitomes of his type of ethos. The Prussian or Japanese officer's devotion to his peculiar code of honor was indeed an amazing phenomenon, but both systems arose out of particularly repugnant sorts of militarism and authoritarian governments which bear no relation to the institutions of our nation. It is foolish to indulge in a romantic artificial nostalgia for the traditions of the aristocratic and arrogant officer classes of Germany and Japan. Without entering into a long discussion of militarism, the point to be remembered is that in nations which have endured "warrior classes," the loyalty of the class has been to the military as a thing in itself, rather than to the nation. A warrior class is notoriously open to two of the greatest threats to representative democracy. It can either become a political power in itself, as happened with catastrophic results in prewar Japan, or it can attempt to stay aloof from direct political action by merely supporting the political force which apparently offers the military the most, as happened with catastrophic results in prewar Germany. (J. W. Wheeler-Bennett's book, *Nemesis of Power, The German Army in Politics 1918-1945,* gives an excellent account of the total breakdown of the rigid code and ethos of the German warrior class in this period.) Neither of these alternatives, of Japan or Germany, is attractive.

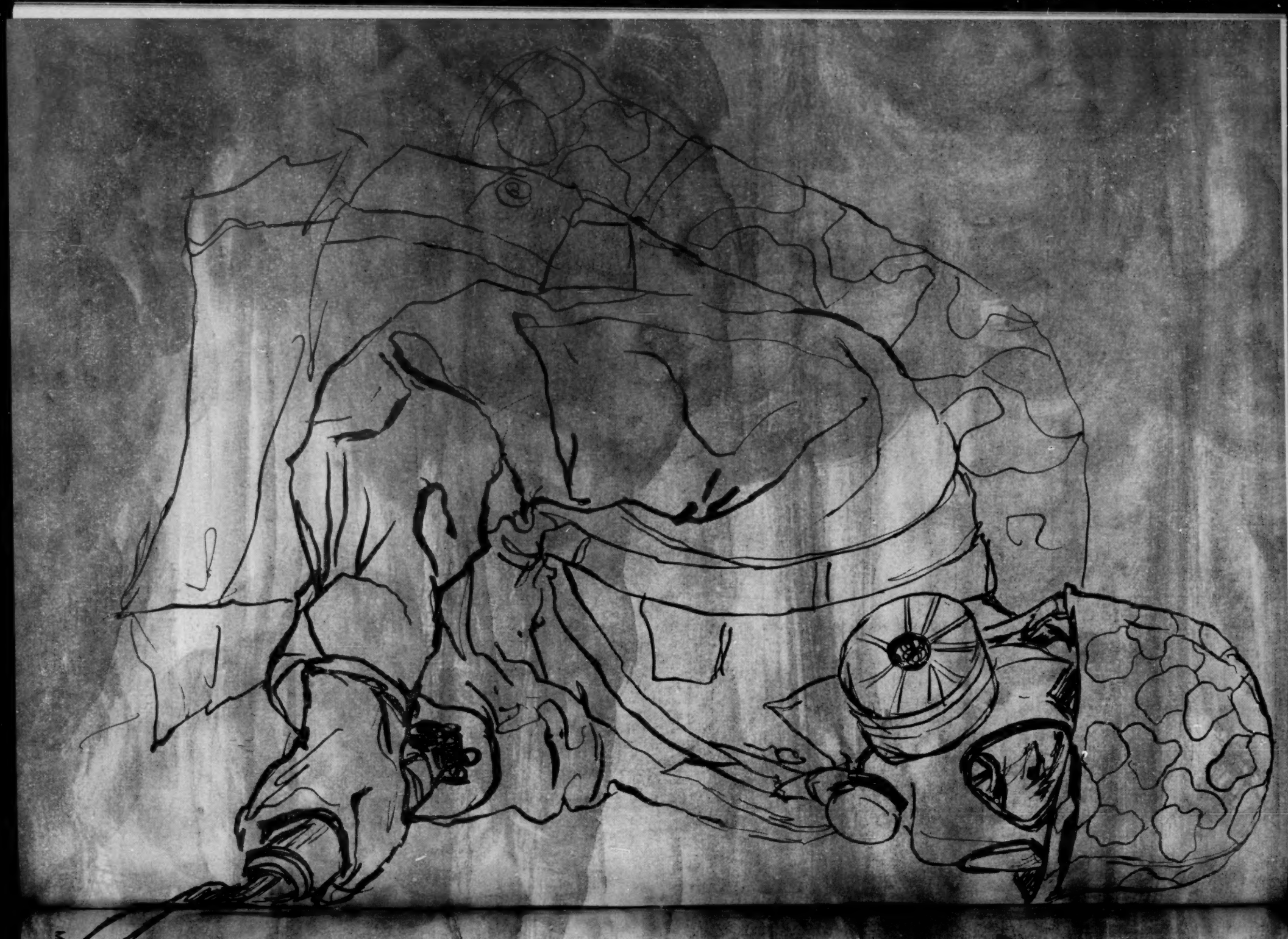
1st Lt McDonald, USMCR, went on active duty with the 12th OCC in Nov '54, after graduating from Yale. He served with the 1st Bn, 3d Marines in Japan; then as Exchange Officer, later Hq Bn Legal Officer, HQMC, until released to inactive duty last August. He matriculated at St. Anthony's College, Oxford University, in Oct '58 where he is now working toward his PhD in Modern European History. He plans to spend 2 weeks this summer on active duty with the Royal Marines.

As I opened by saying I was intensely proud of the Marine Corps traditions of professionalism, I should explain my conception of what already exists as opposed to the proposals of WCdr Gellner. In the first place, military professionalism is too valuable to be left only to the professionals. The one thing it cannot do in a democratic nation is become exclusive and contemptuous of the potential contribution of the citizen turned soldier. Rather, the professional ethos must be intimately associated with the ideals and aspirations of the community about it. Only in this way can it be capable of instilling a sense of professional dedication to those who become part of the military temporarily or permanently. This is the kind of professionalism, creating an elite of a very different kind from that envisaged by WCdr Gellner, that the Marine Corps has so superbly demonstrated in the three major wars of this century. This is the professionalism which made the college boy and farm hand volunteers of the 5th and 6th Marines into a legend in their first campaign in WWI. This is the professionalism which turned 60,000 Marines in 1941 into 6 magnificent fighting divisions in WWII. And this is the professionalism which underlay the achievements of the 1st MarDiv in Korea.

WCdr Gellner's new ethos is based on the assumption that the war of the future will be fought exclusively with regular professional military men. If the war of the future is an all out nuclear war, his assumption may tragically be true. But the threat of an all out nuclear war is not the *raison d'être* for the Marine Corps. As long as we hope to maintain a force-in-readiness large enough to cope with the threat of limited wars, we must rely largely on relatively short term non-career men for the bulk of our junior enlisted men and junior officers. It is the responsibility of the career officer and staff NCO, as regular professional military men, to maintain the traditions and standards of Marine professionalism in such a manner that these citizens turned soldiers will be true professionals while they are Marines. This cannot be accomplished by withdrawing from the community and attempting to create a distinct military class. Such an object is obviously impossible in the fluid unstratified American society.

We have become a nation of veterans, with all the advantages and disadvantages this implies for the professional military. Much could be written on the frequently irrational American public view of the professional military, but never has the profession had a higher peacetime standing than it does now. This respect will certainly not be increased by an effort on the part of the military to create an autonomous society within a society; the purely functional needs of the service provide quite enough isolation from the civilian world, without this separation becoming a mental and moral attitude as well. A Marine must be proud of his Corps, and conscious of the unusual obligations his service lays upon him, but may it never become necessary for a Marine to feel he can find his identity and self-respect only as a member of an isolated "warrior class." Marines are perhaps a strange breed, but they are, after all, still Americans.

USMC



"GAS!"

By Capt Edward F. Fitzgerald

"Whether or not gas will be employed in future war is a matter of conjecture, but the effect is so deadly to the unprepared, that we can not afford to neglect the question."

GEN JOHN J. PERSHING, USA

UNFORTUNATELY THE MARINE Corps and its sister services of today have not been heedful of Gen Pershing's message; the Armed Forces of the US have disregarded the possibility of chemical gases as a weapon which we could utilize or which could be directed against this nation and her fighting forces. I venture to say that it would be catastrophic if gas alarms echoed throughout our barracks or on our bases, home and abroad, for reasons other than drill or rehearsal. We are not prepared for gas warfare nor have we developed our chemical weapons to a sufficiently high standard which would permit us to attack with gas or to retaliate against a determined enemy who chose to utilize gas. The effect which gas would have had against our forces during WWII and in Korea leave me somewhat timorous.

Gen Omar Bradley made the following remarks concerning the possible use of chemicals during WWII: "While planning the Normandy invasion, we had weighed the possibility of enemy gas attack and for the first time speculated on the probability of his resorting to it. . . . I reasoned that Hitler, in his determination to resist to the end, might risk gas in a gamble for survival. When D-Day finally ended without a whiff of mustard, I was vastly relieved. For even a light sprinkling of persistent gas on Omaha Beach could have cost us our foothold there." The same remarks could well be applied to the Inchon landing and the results even more disastrous if nerve or blood gas had been used.

Why this apathy on our part towards gas, a weapon which — when analyzed with an open mind, one free of hysteria and exaggerated emotion — proves to be one of our best potential instruments of war? I make this assertion knowing full well that there are many men and women who will level a multitude of charges at me because of my seemingly immoral, cruel, unsportsman-

like tenets of war. I stand prepared to face the whole gamut of vindictiveness for I sincerely believe that this nation is attempting to bury its head in fear of gas as does the fabled ostrich when an unpleasant situation presents itself. The accusations are most certain to be heard, for the anti-gas propagandists have been exceedingly successful in building a false picture of chemical warfare and stirring the inner fears of mankind. No military subject is so little understood and has suffered as much vilification as gas. Sensationalistic writers have published literary condemnations of gas warfare — condemnations devoid of scientific fact. However, these writers are not alone for they have been joined by ultra-pacifists and military leaders who permit their imaginations to run rampant as they expound on the subject of gas warfare. Winston Churchill has aptly described the ideas of these men as "terminological inexactitudes."

My purpose in writing this thesis is to separate the truth of chemical warfare from the sensationalism and fantasies which prevail today concerning this subject. It is not my intention to become engaged in an academic discussion or debate as to whether gas is a humane weapon of war, although in later pages I will dwell briefly on this aspect. Those who argue that being burned alive by napalm, torn limb from limb by high explosives, or destroyed by nuclear radiation or its intense heat are more humane ways of death, are not facing reality, nor is their criteria in judgment of weapons graphic or valid. My basis in determining humaneness of weapons, if they must be judged in such a light, is the degree of suffering, the percentage of deaths and disfigurements and the aftereffects. It is an established fact that the more "humane" an explosive weapon becomes, the less effective it therefore is. However, I will show that those who strive for humaneness in armed conflict would best and logically become advocates of the use of chemicals in war, for gas is the most humane weapon we presently possess and can develop. War is the searching out and destroying of the enemy and in itself is the negation of humanity. A nation facing possible annihilation must consider in what areas and with what weapons it best can strike. Any other concept is delusion and fallacy. A nation at war or facing armed conflict cannot afford to make any military decisions based on such premises. Degrees of humanity best fade away in the light that war is a grim contest between states for national existence and it is not to be viewed as a sport confined to an arena. In view of this, there can be little room for any argument that a weapon is humane although if, for some, this condition must be met, gas does satisfy the requirement well.

There appears to be an attitude throughout the Armed Forces today that the only weapons which can be effective in this age of push buttons and electrons are those which still are on the drawing boards of our scientists and that this nation would be taking a step backward if any development was made on weapons utilized in the past. Such is the case with gas — many believe that since it was primarily a WWI weapon, this is evidence that it has no value in today's thoughts, and that any values which chemicals may have had, have been replaced more efficiently by nuclear weapons, electronic equipment and guided missiles. The supposition above, coupled with the fact that gas was

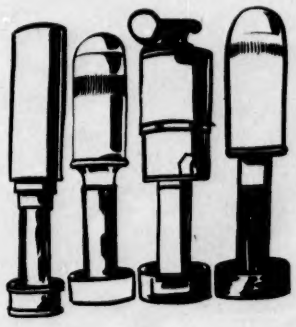
Capt Fitzgerald presently CO, MD, USS Los Angeles, wrote this article because he believes the Armed Forces are neglecting a weapon "which could change the tide of any war." He was commissioned in Sept '52 via OCC after graduating from Dartmouth College. As an infantry officer in Korea (May '53 to Apr '54) he served as a platoon leader, 60mm mortar section leader, and Bn S-4. Subsequently he attended the Artillery School at Ft Sill and commanded a Btry at 29 Palms.

not used during WWII, has overshadowed the picture of actual warfare as it will be fought for many years to come. This apathy concerning gas must not be permitted to continue and to flourish, for if it does this nation will be exposing its Achilles heel at which our enemy will aim his arrows.

The fact that gas was not used during WWII was not due to any humaneness or high moral fiber which permeated the world at that time. The ovens of Dachau and the Bataan march were the true indications of how the war was pursued then and how it will be fought again. Nor was it because of any international leagues or agreements that this weapon failed to see employment during WWII, for history has taught us well the value of a treaty or a "piece of paper."

The US has agreed not to employ chemical weapons with but one country — Panama. There is in existence today no other concordat which prohibits the use of gas on the part of the US. All attempts to place the name of this country on such agreements with European and Asiatic nations were defeated or never ratified by Congress or the ruling bodies of other countries. The nations which did choose to sign weapon-limitation pacts saw the value of such concerts when Italy used mustard gas against the barefoot army of Ethiopia. Both nations had affixed their signatures to an anti-gas pact the very month Italian fliers sprayed the flanks of the battlefields on which they were engaged. It is no secret that nations have always lacked the willingness to sacrifice weapons and military advantages in the interest of disarmament. The Ethiopian War was only added proof of this international attribute. No, gas was not used in WWII or in Korea due to any moral reasons or international agreements but rather because it was not considered tactically advantageous to our enemies at the time. Vast supplies of gas were found in Germany and Japan after their defeat in 1945 — an indication that if the proper opportunity presented itself gas might have been used.

For this Nation to agree with any major nations that gas will not be used by us in any future war would be sheer folly and would be a basically unsound military decision. Any such treaties or agreements would permit a potential enemy nation to limit our strength and to capitalize on his weaknesses. If it



was to be accepted that we would use toxic gas only in retaliation we would be making a basic military decision on moral grounds only and it would be an unsound decree as such. Such an approach to chemical weapons would permit an enemy to choose the weapons he is best suited and prepared to fight with. Simply because we may be engaged in conflict with a nation which has no suitable chemical industry to supply its needs does not necessarily mean that we should not or cannot utilize gas as a weapon. We have the best chemical industry in the world today and any agreements prohibiting the use of gas merely tie our hands and leave us at the mercy of the unscrupulous. Our superior chemical productiveness and scientific technology are our best weapons against the communistic masses.

The history of gas warfare dates back two thousand years when burning pitch was used to gain a military advantage. It was used frequently by the Roman legions and burning sulfur became one of the primary weapons of any siege. During the war which drove a temporary wedge between the North and South there appeared a number of advocates of chemical warfare. There is little doubt that had their ideas been adopted, the war would have been less lengthy, and perhaps fewer casualties would have occurred. The world witnessed the most widespread use of chemical weapons shortly after the Germans released the gaseous clouds against the entrenched Allies at Ypres in April of 1915. The use of this weapon resulted in confusion among the ranks of the thousands of men who manned the Allied lines. The 1500 casualties, a result of the surprise, unpreparedness and lack of gas discipline among the troops, gave the Germans a potential tactical advantage the like of which they would never have again. The effectiveness of this new weapon was underestimated by the Germans and they failed to realize the opportunity which was before them and that the doors to Paris were then open wider than ever before. Shortly after this chemical attack the Allies again closed these portals and never again were they opened as they were that fateful day of April. Throughout the remainder of WWI the Allies resorted to gas weapons to strike at the Germans and to inflict casualties on an enemy which had been driven into trenches and tunnels by bullets and high explosives. Gas was not seen again after

Responding to gas alert in France during WWI

Ready for a gas attack (France, WWI)

WWI until the Italians used it in Ethiopia in 1936 and the Japanese found chemicals to be such an effective weapon against the Chinese in the Thirties.

It was during the years which followed WWI that gas was the topic of heated discussions at the international conference tables. The nations which had fought the "war to end wars" were now attempting to limit the weapons of the next armed conflict. These conferences brought with them the pacifists, pseudo-militarists and sensationalists who condemned gas as being the weapon of the devil. Many of these men had failed to see the real intent of British propaganda in 1915-1917 concerning chemicals — propaganda designed not to show gas as it truly was but to bring world opinion against the Huns. The Allied accusations that the Germans violated the Hague Conference of 1899 by using gas was in itself a falsehood which was promulgated by the Allies. The few men who attempted to inject factual tactical and medical statistics concerning gas used during WWI were shouted down. The many conferences failed to unite the Allies in agreeing which weapons would be utilized in future wars and as the delegates returned to their capitals it was evident that few countries were willing to limit themselves to specific classes of weapons. The US had not affixed her signature to any weapon limitation agreements which included any of the major nations of the world.

The unlimited advantages of chemical warfare practically insure that another war in which gas will be utilized is not a mere dream. Nations faced with survival must turn to the weapons which will provide victory with the least expense in terms of both men and material. The development of "modern" destructive weapons has brought forth a number of men who speak strongly in favor of the use of chemicals in war. They argue that gas would provide the ways and means to a military victory at the conclusion of which casualties would not be counted in figures of millions of deaths and countries would not be faced with smoldering ruins to rebuild at costs which exceed that of the war itself. Some foresee that nations such as the US cannot economically continue to carry the burden of financing a rehabilitation program at the conclusion of each armed conflict. No longer is military victory enough—economic stability must be provided as well.

Military effectiveness should be the criterion of all weapons, conventional, chemical, nuclear or otherwise; ethical considerations are not of primary concern. As the purpose of all weapons is to disable or destroy the enemy's potential to wage war, then it holds that the more swiftly, surely and economically that this result can be accomplished, the better the weapon. Disabling the enemy does not necessarily mean that the enemy's armies and men must be blown to pieces or his country ravaged. The purpose of war is not to massacre but to merely subdue the enemy. No greater degree of force should be employed in any war than is necessary to achieve victory. Ruthless destruction of life and property is not a necessity of armed conflagration nor is it even warranted when other means present themselves. Any other concept of war is not a valid one.

Chemicals provide an army with the weapons which can bring an enemy to submission without killing or maiming the youth of the country—the very men who are so sorely needed when political adjustments to insure future peace are made. Gas offers us the means by which we can select our targets, thereby confining it to the battlefield, if we so desire. By choosing the type of gas we wish to employ we can temper and adjust it either to kill, harass or temporarily disable an enemy. Our selection varies from simple lacrimation to quick death. We can wage such a war without destroying the economy of a nation. A nation could emerge from a war and not be faced with the task of rebuilding its churches, homes, factories and without the loss of cultural monuments which could never be replaced. More importantly, the man who is gassed comes out a whole man, unmangled by gun powder if the proper selection of the chemical is made. A man reenters civilian life ready to shoulder his portion of responsibility in a new nation.

Gas has the further advantage of being a weapon which can be controlled in any weather, for chemicals are governed by specific laws of physics. Winds of determined speed, temperature and humidity all can be measured before the gas is released and the user knows almost certainly what the result will be. Gas is able to "shoot" around corners, inside buildings; it seeks low ground, goes in foxholes into which bullets have driven the enemy; it is effective for as long as desired — the length of time is limited only by the choice of gas and the amount released. Whereas high explosives provide

only a one-time, one-shot effect and great accuracy is needed to be effective, such is not the case with gas. Furthermore, a bullet is useless after it strikes the enemy, whereas gas has a continuous effect. It stays active even after having inflicted a casualty. Gas, unlike a bullet, follows no narrow trajectory; it permeates the air, penetrates tanks and pillboxes and overcomes all incidental obstacles to stalk its quarry relentlessly.

Chemicals satisfy two principles of war — surprise and simplicity — very well. In the offensive our forces could utilize gas by harnessing the enemy and causing him to mass and prepare in his defenses under the handicap of protective equipment. We could prevent the enemy from occupying strategic ground by using a persistent gas on that particular area, timing its effectiveness so that upon our arrival our troops could occupy the terrain. Sealing off our flanks by use of gas would be a commonly accepted tactic and this would permit greater concentration to the front and fewer men would be needed to give all around defense.

The employment of a gas provides the means to neutralize areas and causes an enemy to evacuate and abandon materials which could be destroyed or used by advancing armies. True, high explosives in destroying materials weakens an enemy but it in turn prevents their use by others.

In the defense chemicals can prove to be extremely desirable weapons. With gas, avenues of approach can be sealed off by persistent agents. Any enemy attempting to utilize the approach must then either mask or don protective equipment which would slow and hinder his movements and make him more susceptible to other weapons. Gas gives us this advantage without the time consuming effort of laying barbed wire and mines. It would not hinder our advance as do mines and wire if we choose to move forward after the gas becomes ineffective.

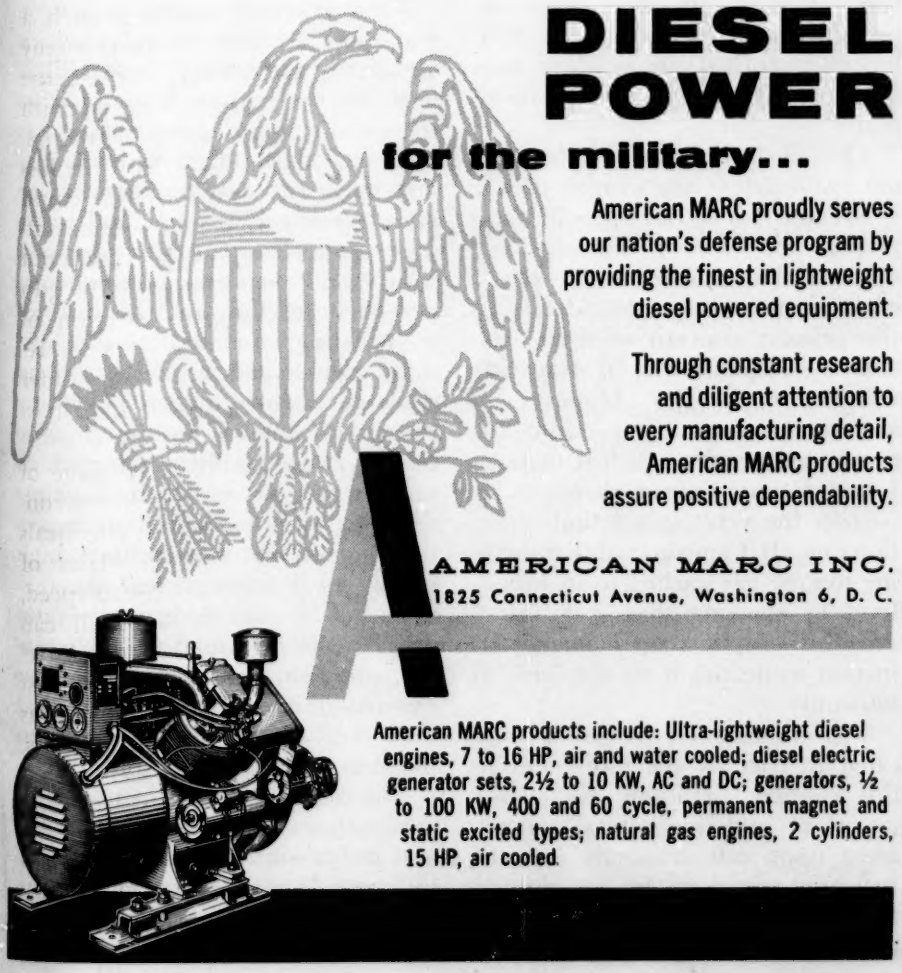
Areas which command views of friendly units and front lines can be made untenable by chemicals. The savings in lives would have been tremendous if gas had been used on some of the Korean hills and the Chinese prevented from occupying this high ground. Again, gas could have been utilized to capture prisoners of war simply by selecting a type of gas which would make a man unconscious for a period of time and permit our patrols to move forward to carry him back for interrogation.

When opposing forces reach a stalemate due to equal fire power there can be no advance except by numerical superiority. Gas would prove to be the weapon which would restore mobility to the situation. The force which resorted to this weapon first would gain the tactical advantage which could well spell victory. This consideration becomes of great concern and more poignantly important to us when we consider that the nations opposing us today are those very countries which have this numerical superiority which could prove so helpful.

Chemical warfare provides the advantage of permitting the user to select the type of casualty he desires. This advantage offers the possibility of selecting a gas which would cause casualties only and thus engage a larger percentage of manpower in the care of these injured. Men put out of action are liabilities to the effectiveness of any military organization; every casualty would engage other personnel in caring for him and thus keep these potential fighters from the front lines where they could take up arms against our forces.

The value of gas is even more striking when we review the statistics which came out of the last major war in which chemicals were used. WWI figures—free now of hysteria, the desire or necessity to falsify them in an effort to appease specific groups and made more valuable by the lapse of time we have had to appraise and study the after effects of the chemicals used—give us valuable information.

From the time the Germans launched their first chemical attack to the Armistice, chemical agents accounted for one-third of the 274,000 casualties suffered by the American Expeditionary Force: 37 out of every 100 US casualties. These are very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remarkable results when we note that chemical warfare was not introduced until the end of the first year of the war; it then went through a period of experimentation for the next two years and was not developed to a degree even remotely approaching its possibilities until almost the last year of the war when mustard was utilized in July 1917. New methods of delivery such as the airplane, missiles and artillery would make these figures even more convincing. Out of the American chemical casualties, death resulted in only 1.5 per cent, while on the other hand, 28 per cent of those casualties caused by high explosives died. In other words, a man had a 12 times better chance of living if struck down by gas. These figures become even more interesting when we learn that the Germans had a mere 6,000 troops assigned to chemical units throughout the war. For a unit of such a small size, its record of causing casualties is indeed a fine one.

Economically, too, gas proves its worth when we discover that there was one casualty for every 60 pounds of chemicals used. For high explosives to attain the same results 500 pounds of HE were required. The cost of gas is far less than that of HE and the results far better. In support of these statements I offer for consideration the results of a study conducted shortly after the Iwo Jima invasion. In February 1945 Iwo Jima was one of the last milestones of resistance on the road to Tokyo. Its 8 square miles were honeycombed with tunnels, caves, and bunkers which provided a high degree of protection on a 24-hour basis to the 22,000 Japanese defenders. Six thousand tons of HE bombs were dropped in pre-invasion bombardment and 8,000 tons of HE were fired into defensive positions during the 2 days preceding the assault. These 14,000 tons of explosives delivered as preparatory fire actually had little effect on the defense capabilities of the troops holding the island. It therefore became necessary to storm Iwo the expensive way — 24,000 American casualties. Data available at the time of the invasion gave reasonable assurance that approximately 5,000 tons of mustard gas, properly employed, would have killed or incapacitated a major portion of the defenders and would have permitted our forces to go ashore essentially unopposed. I need not dwell on comparisons of the cost of mustard and HE, and there can be no price tag on 24,000 casualties.

Medical records of both Great Britain and the United States conclusively indicate that the after effects of gas are far less horrible than those of other weapons. The much circulated stories that men who were victims of gas were prone to become bedridden with tuberculosis have no sound medical basis, for the truth is that the percentage of lung disease in men untouched by chemicals is comparable in every respect with those soldiers who were gassed. The vast majority of veterans confined to government medical centers are victims of high explosive injuries — not chemical. The same situation holds true with those confined to psychopathic wards — they are predominately "shell-shocked" victims of high explosives — not gas. Furthermore, statistics indicate that those men who were gassed and who required hospitalization spent 50 per cent less time in the hospitals than the victims of high explosives. Gas, while it can cause casualties, permits a vast percentage of men to return to normal life as whole men free from artificial limbs and metal plates.

The medical statistics of WWI are proof that if any weapon of war is humane, gas is that weapon. Paragraphs above have indicated my opinion that humanitarian considerations in weapons should not be the primary concern of those who bear the responsibility of preparing this Nation for war. However, in an attempt to bring gas into the proper perspective which it deserves I find I must defend chemicals in part in the very light I find objectionable. If I am successful in helping to raise gas warfare to its proper level by showing that it is not a dreadful weapon then I am not reluctant to defend it on the basis of humanity.

The humaneness of gas is indicated in part by the movement in this country to adopt gas as the means of inflicting capital punishment upon our criminals and the increased use of gas by law enforcement agencies to quell civil disturbances and riots. Surely if gas was the cruel, barbaric weapon many wish us to believe, then civilized people would not resort to it as a means of controlling their own neighbors and countrymen.

Are we as a force prepared to enter combat to meet an enemy which utilized a chemical weapon? I fear that we are not and that, in spite of the high discipline in the Marine Corps, we would have many unnecessary casualties which could be prevented if we undertake a realistic approach to the possibility of gas attack. Like most Americans we labor under the conception that gas is a weapon of our forefathers and that if we do not think about or prepare for a chemical war, then one will not occur. It is unnecessary to explain the folly of such rationalization. We have an unjustified fear of gas because to many it is a mystery which is not understood. Out of our ignorance an unjustified fear has grown. Gas has become a subject most Americans do not wish to discuss. We as a Nation would do well to apply the words of Franklin D. Roosevelt to the subject of chemical warfare — "the only thing we have to fear is fear itself."

There is strong reason to believe that there are nations today which are giving gas another look. They base this new approach to this controversial weapon upon the fact that their national budgets will not permit extensive development of expensive nuclear weapons and costly guided missiles. Gas is one weapon which can be mass produced at comparatively low cost and this in itself is appealing to many nations which must provide a defensive system on depleted treasury funds. They base their new interest on the premise that in armed conflict during which nuclear weapons are utilized against them they too must find a weapon which outmodes conventional high explosives. Further, if fear of retaliation on the part of the major powers prevents the use of atomic weapons, these smaller countries believe gas may be the alternative and that they will be in an advantageous position in the event of an attack.

The time has come when we must approach the subject of gas warfare and the possibility of a chemical attack with a realistic outlook — one which is based on mature military thinking, void of fear and hysteria.

We must include gas training in our military maneuvers; condition our troops with the fact that they may be forced to wear gas masks; teach that with practice the handicap which is an inherent disadvantage of any mask can be overcome and that they as fighting men can become more efficient in work and in war while donning such a mask. It would be wise to require that our troops wear protective masks for long periods of time — for periods as long as a day. We must utilize harassing chemicals, both the tear and vomiting gases, against our own troops in training periods, maneuvers, demonstrations and at unexpected times to condition them to gas, to instill speed in detection and in protecting themselves, to teach them through experience that gas used against disciplined troops is not certain death. The use of vomiting gases will make many men sick for a short period but such a vivid experience would pay tremendous dividends if the gas were ever used in actual combat. We must teach first aid and individual protection for, unlike conventional weapons, gas does not spill blood to warn of injury and even if a man becomes a victim of gas he need not necessarily be required to lay down arms to receive medical attention. It will be necessary to teach our troops that the value of chemicals is not derived from their deadliness per se or casualty producing effects, but rather from the direct influence they have upon tactical situations by affecting military units as a whole rather than individuals. However, success in preventing entire units from being effectively removed from combat lies solely with each individual and how he responds when the gas alarms are sounded or when he detects the presence of chemical agents.

We have no guarantee that gas will not be used again; it is too effective a weapon for all nations to simply discard as obsolete and outmoded. We have had proof that nations who choose to use chemicals will not consider any agreements concerning this weapon. While I do not maintain that gas could or would make any other weapon obsolete, it in itself is far from being antiquated and replaced as an instrument of war. If our government does choose to adopt a policy that this Nation will not resort to gas, our best insurance against it being used against us is that we study it, develop it and train for an armed conflict in which chemicals will see use again.

The Marine Corps perhaps will be the first military organization to be gassed if an enemy does make the decision to utilize this weapon. This asumption is based on the fact that Marines generally are the first troops to be committed in any war and the enemy would use his gas then to give him the initial military advantage before nuclear weapons may be used.

We must be prepared. Facing this possibility it would be wise for us to re-examine our present training program to include a realistic approach to chemical warfare and the consequences of such a war. We must be ready to continue aggressively in combat if gas is used against us and we must also be prepared to effectively deliver chemicals upon our enemy. USMC

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A MATTER OF NECESSITY

HQMC, WASHINGTON, D. C.—The business of minimizing uncertainty requires the best efforts of our integrated intelligence system. As pointed out by BGen Masters in his article, *Minimizing Uncertainty . . . the Three-Headed Spook,* GAZETTE, June '58, our intelligence system must be "suitable—in terms of personnel, doctrine, organization and materiel resources—to do the job." It is to one vital facet of the integrated intelligence system that this article addresses itself.

It has been said that a chain is only as strong as its weakest link. Two weak mechanical links exist in the chain of our intelligence system which, if not strengthened, threaten to frustrate all efforts of qualified experienced intelligence personnel. The chain runs all the way from the G-2 of the Landing Force to the lowest echelon directly concerned with intelligence.

The first of these weak links is the means of *reporting* information to the headquarters that can evaluate and translate the information into intelligence. The second weak link exists in our methods and means of *disseminating* intelligence while it is still timely. In this sense, then, the steps are mechanical steps and are distinguished from those scholarly techniques and procedures involved in the interpretation and evaluation of information and its conversion into intelligence.

The problem of dissemination has been solved to some extent by the use of a radio broadcast. This method has been used successfully in recent exercises for disseminating both intelligence and warning information. However the reporting of information still remains a weak link. This weakness is aggravated by the distances over which our collection agencies must operate, and the fact that if provided communication equipment of sufficient range, its weight and bulk reduces the required mobility to the extent that the agency cannot perform the collection mission.

For example, we cannot provide a motorized reconnaissance patrol with a van type radio. It is like tying a 35 knot task force down to the speed of a 10 knot transport. Yet the van type radio may be required to cover the distance between the collection agency and that headquarters capable of evaluating the information collected.

What is the solution?

Ultimately it is in the development of smaller and better radios operating from some as yet undeveloped portable power supply, having a power versus weight ratio much greater than anything we have today. However, the problem is with us today. We cannot wait for the solution to be found in the distant future. We must solve it with our present resources as a matter of necessity.

The Navy found an answer to their world-wide communication requirement from ships scattered all over the global waters by establishing a system of ship to shore circuits. The shore terminal has the responsibility for relaying, or getting the message to the ultimate addressee. Perhaps we can reduce the area somewhat and utilize a similar system for the reporting of information. Let us take for example a Division area of responsibility, assuming this area to be a Force Beachhead.

Here, Figure 1, we are also assuming that the Division CP will be located within the perimeter of one of the battalions of one of its regiments. Relay stations will also be placed within a battalion's perimeter, the battalions to be determined by various technical considerations such as the distances back to the Division CP and the range of the

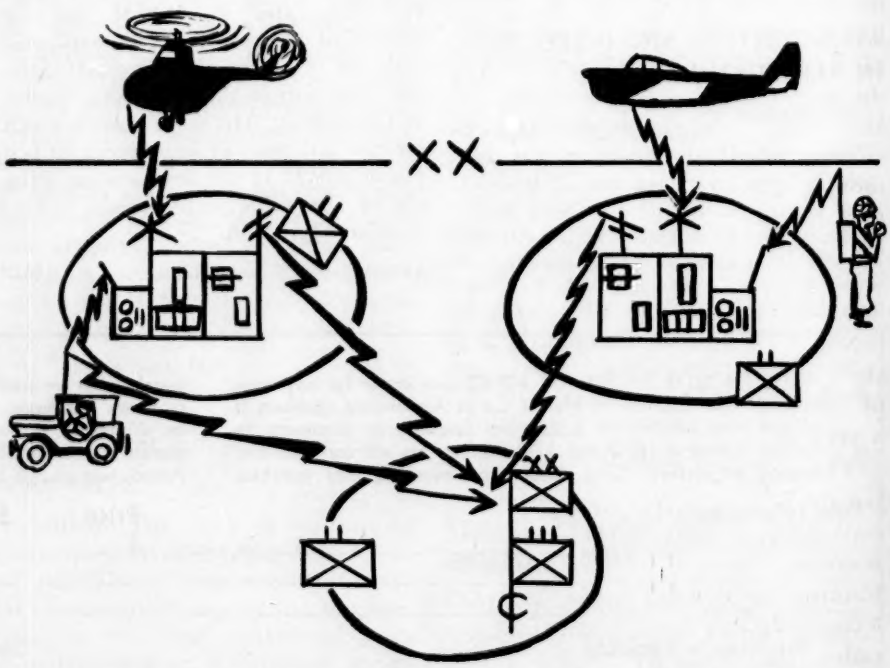

Figure 1

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★

organic radios of the units collecting information.

For this example we will consider that two relay stations are required to fully cover the area; some situations may require more, and in others we may get by with one. Each relay station is equipped with radios in the high frequency, very high frequency and ultra frequency ranges. This permits receipt of transmissions from units equipped with man pack and vehicular radios, and communication with aircraft. One additional channel is necessary, and that is a channel for point to point communication with the Division headquarters. Radio teletype, or a teletype terminal of a multi-channel radio link may be used.

Any unit, reconnaissance patrol, reconnaissance aircraft or an infantry unit, noting information of value would transmit directly to the Division using a prearranged frequency within the range of its organic equipment. In the event Division hears the transmission, it receipts for the message. Any relay station hearing the transmission would also receipt, if after waiting a reasonable time nothing was heard from Division. If it is not obvious that Division received the message, the relay station immediately relays the information back over its direct link to Division. The relay station can also deliver the information to the nearest headquarters in order to keep those units in the immediate vicinity informed. Most important though, the information gets back to a headquarters where it can be evaluated, collated with other information, and disseminated as intelligence.

Not only does this system answer the requirement for the collection of information, but there is also a a very important fringe benefit.

This can become the means of reporting all types of warning information, just as the broadcast disseminates both intelligence and warning information. There comes a time when multiple systems, duplicating the headquarters they connect, fail because the effort becomes too great at each headquarters to support. They, in effect, fall of their own weight. But one system receiving the full support of all headquarters becomes more reliable, more rapid, and capable of handling a greater load than a number of duplicating systems. Thus, this communication system established primarily for reporting of information can also become the means of anti-mechanized warning, chemical and air warning, and atomic effects information, reported by the first unit observing or capable of reporting the information.

Obviously this article has over simplified the solution. Detailed planning will be required for its execution. Dissemination of call signs and frequencies must be thorough and complete. Assignment of frequencies on which the relay stations will operate will require meticulous care to insure complete coverage of all organic or attached Division or Wing units. Personnel operating the relay stations will have to be well trained not only as communication personnel, but also completely indoctrinated in the operation and mission of all units with which they may have contact. The personnel will be chosen for their initiative, as the operations are not the type that can be spelled out completely in a Standing Operating Procedure.

However the problem is pressing us for an immediate solution. The solution must be within our present capabilities and perhaps this is it. It only remains for the system to be tried in field exercises and evaluated. The system can be exercised on a limited scale and expanded as results warrant. Any system that may meet the unmitigated requirement of rapid and reliable reporting of information is worth all the effort the Marine Corps can put into it.

Let's strengthen the weak links in the chain and help the "2" in his task of whittling the three-headed spook down to size.

LtCol W. W. Stegemerten

LET'S NOT DO IT

1st MarDiv, Camp Pendleton, Calif.—In his article "Let's Put the One-Man Helicopter in the Marine Division" (Gazette Mar '59) Capt Newton posed the very real problem of intelligence and surveillance created by unit separation. His solution was the introduction of the one-man helicopter into the infantry battalion and the training of NCOs as observers to man them.

In his article he overlooked the fact that although unit separation has created this problem, its solution is contained within the Marine division under its current T/O. This solution is the Tactical Air Observer flying in the fixed wing aircraft of the VMO.

The number of aerial observers in the Marine division was increased to 19 in the "L" series T/O in order to supply enough trained observers to provide the assault battalions of the division with continual aerial reconnaissance.

I concede that the one-man helicopter is an amazing and interesting invention and may have future military application. I disagree, however, with the application suggested by Capt Newton because the TAO in the fixed aircraft is capable of providing the necessary reconnaissance between separated units. In the performance of this mission the TAO has 3 main advantages over the NCO in the one-man helicopter.

The first and most obvious advantage is the presence of the observers and aircraft in the division now. No additional expense is required for new material and new training facilities. No changes in T/O and T/E is necessary.

The second advantage is with the TAO himself. He is an experienced infantry or artillery officer capable of evaluating what he observes, analyzing targets, and utilizing supporting arms. He is school-trained as an observer and understands a multitude of subjects from enemy armor identification to aerial photography. Finally, he must have 100 hours experience in the air to be designated as a TAO. He can concentrate on his observation mission because a pilot is provided to fly the aircraft for him. Experience in WWII proved that a man cannot do an effective job of observing and fly an aircraft evading anti-aircraft at the same time.

The third advantage lies in the aircraft. The light observation aircraft is capable of longer range, greater altitude and longer time on station than the one-man helicopter. More important than those advantages is its communications capabil-

ity. An observer can be a tactical air controller air-borne, can direct naval gun fire, adjust artillery fire on a target, relay radio messages for separated units, or talk to infantry companies or battalion commanders. This is due to the multi-capability of his radio set. Furthermore, if an NCO in a one-man helicopter sights an important target or enemy buildup, he must return to his unit to report it. On the other hand a TAO sighting the same target can report it immediately on the division AO net which is monitored at battalion, regiment and division levels —thus informing all echelons of command simultaneously of an enemy threat and could, if the situation warranted it, attack and destroy this threat with air, naval gunfire, or any combination of these.

The TAO has proven his worth in conventional warfare; unit separation makes him one of the most important means of reconnaissance and surveillance available to a commander. By utilizing TAO, in fixed-wing aircraft we have range, altitude, experience, communications and ability not only to locate and analyze targets but to attack and destroy them.

With all this in mind it is hard for me to picture the need for the one-man helicopter with a pilot-observer who must use his hands to fly the aircraft, not record data, who has little or no radio communication, who is completely vulnerable to all small arms fire, and who is exposed to the elements of the weather. My stand is, let's not put the one-man helicopter in the Marine division but instead use the capable and available aerial reconnaissance means at hand.

Capt J. R. Luckett

THE MUSCLE COURSE

MCS, QUANTICO, VA.—The physical fitness test prescribed in MCO 6100.3A will provide some guide to the physical condition of personnel. However, the low level of achievement required is such that with a burst of energy and determination to succeed, the test can be passed by

the average Marine without much, if any, pre-conditioning. Then for another year, the Marine can do nothing about it.

What is needed is a slight modification of the testing procedure so a continuing challenge is presented to each Marine. A spirit of competition will naturally develop, and the program will be of more interest. The test exercises, if properly done, do develop and improve the muscle tone. Hence there must be considerable emphasis on use of the correct techniques and form.

The modification referred to is testing the physical fitness 3 or 4 times a year. The first test should require achievement by all personnel of the minimums prescribed in the order. The remaining tests should require increased levels of achievement. But this increase should not be an arbitrary flat increase for all personnel. Consideration must be given to the physical structure of each man. For example, a 220 pound man should not be expected or required to chin himself as many times as a 150 pound man. However, each should be required to improve his abilities. The analysis and study of physical structure necessary to establish proper standards for increased achievement should not be too difficult for each command. The important factor is presenting the challenge to each individual for improvement.

As with all training, there should be an application directed toward combat. What is needed is a test applying these exercises under simulated combat conditions in field uniform. Examples of such application are:

1) Chinning one's self on a thin wall, to include holding the position for a time to observe or locate certain objects and then note what was seen.

2) Push-ups to observe over a low obstacle, possibly repeated several times to detect certain objects or done at several points on the test course.

3) Pull-ups in connection with heaving on a line to drag an object over a given distance on the ground, simulating the heaving necessary in using ropes to scale the sides of buildings.

4) Squat-thrust in connection with movement by bounds along the test course.

5) Standing broad-jump from a ledge.

6) A cross-country run of one-half or three-quarters of a mile.

This type of test most probably would receive only unit recognition for achievement, but it could well be one of the events in a unit field day.

The physical fitness program cannot become just a one-shot "T-day" affair. It must have a goal that is challenging, require more constant attention and must have some relationship to combat.

Lt Col W. F. Frank

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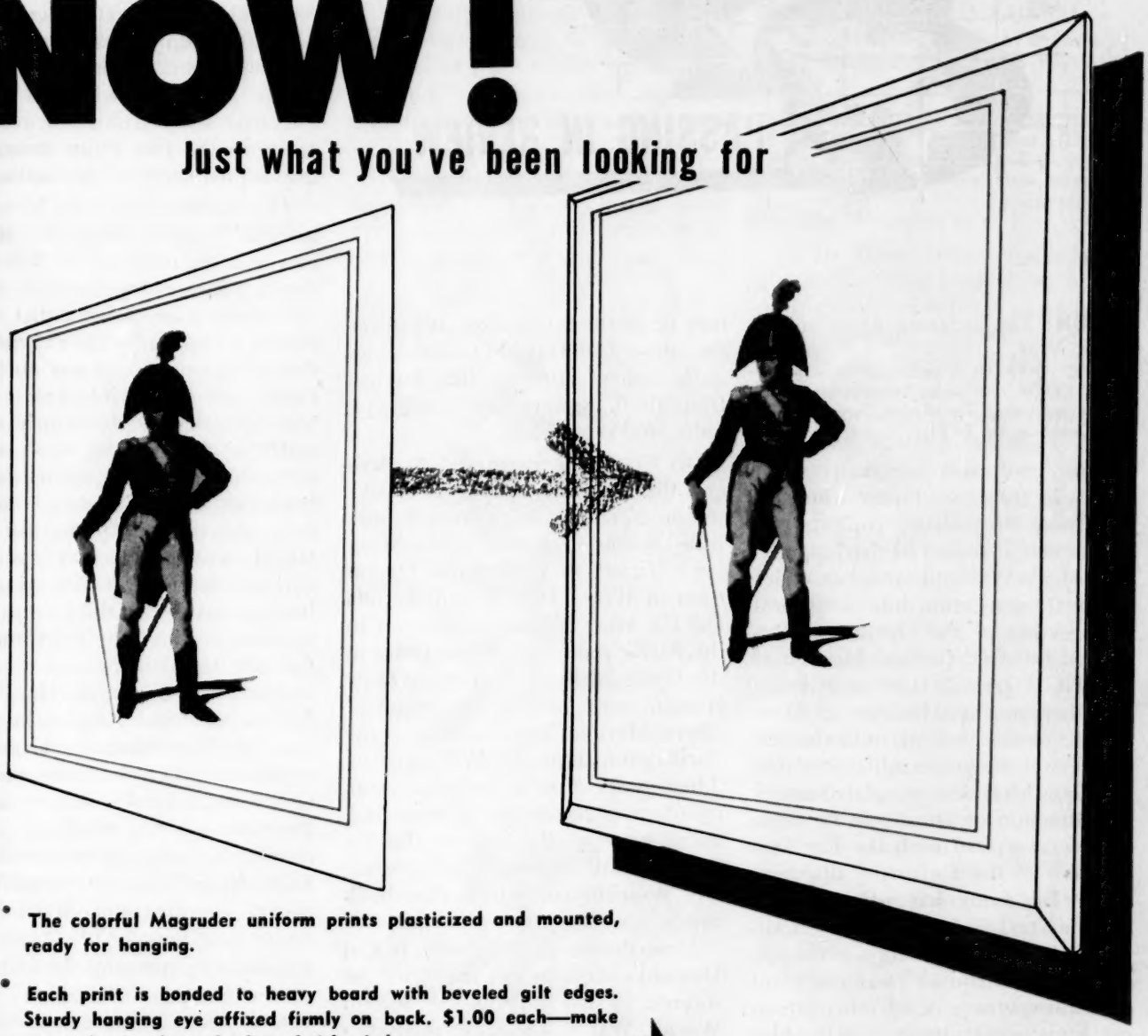

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PASSING IN REVIEW

KŌGUN: The Japanese Army in the Pacific War
SABURO HAYASHI in collaboration with ALVIN D. COOX. 248 pages, introduction, maps, appendices, index. The Marine Corps Association, Quantico, Va. $4.50.

This book was originally published in 1951 in Japan where it sold more than 60,000 copies. The author was a colonel in the Japanese Army in WWII and served as Chief of the Organization and Mobilization Section of the Operations Bureau of Imperial General Headquarters (IGHQ) and later as Military Secretary to the Minister of War, Gen Korechika Anami, until the end of the war when Anami committed suicide. It has been translated under the direction of Dr. Alvin D. Coox who is associated with the Far East Division of the University of Maryland. Dr. Coox has added to the original text a long series of footnotes, mostly explanatory in nature, as well as a detailed "war diary" of events concerning or affecting Japanese Army operations in WWII. Also added is a highly useful appendix containing brief biographic sketches of 91 highranking Japanese Army and Navy officers, many of whose photographs are reproduced for the first time in this country within the covers of this book.

Col Hayashi, in his own words, has "tried to present a faithful account of the Army High Command's actions 'as they were' during the Pacific War," (p. xiii). His intention was to focus his study on three problems: 1) How did the Army High Command estimate the situation throughout the Pacific War? 2) On what thinking were their plans of operations founded? 3) How did they actually conduct matters?

It is unfortunate that such a worthy and useful endeavor should be marred in the execution by deficiencies of style and presentation. This, however, is the case here. The fault may lie in the translation. Whatever the cause, Col Hayashi's exposition, as it comes across in this English translation, is unevenly paced, episodic, and sketchy.

Dr. Coox has attempted to flesh out the body by adding extensive footnotes, chiefly based on such published works as Samuel Eliot Morison's *History of U. S. Naval Operations in World War II* and the official US Army histories of the war in the Pacific published by the Office of the Chief, Military History. (Oddly enough, only one of the excellent official Marine Corps histories of the Pacific campaigns of WWII is cited.) These notes serve a useful purpose by offering the reader a more balanced view of the war in the Pacific, but fail to supply the substantive nourishment which this book needs.

Nevertheless, there is much in Col Hayashi's short survey to attract the interest of students of the Second World War. To this reviewer's knowledge, there is no other single work published in English that covers so completely the evolution of Japanese war plans (especially the Army's) in response to changing military and political situations as the war progressed.

Initially, as the author points out, the Japanese Army High Command "regarded the Pacific War as but an extension of the China Incident . . . (and) there was every intention to set about crushing the Chiang Kai-shek regime as soon as the first phase operations were concluded in the southern regions" (i.e. Southeast Asia and the Pacific Ocean area) (p. 47). In the first flush of victory, it did not seem unreasonable to the Japanese High Command to think that Japan could win the war on the continent of Asia and in addition secure permanent possession of a far flung network of islands in the Pacific. Hence, the Japanese overextended themselves in both directions, and the story of their war-time military planning after Pearl Harbor is, as told here, largely one of successive withdrawals and readjustments in the face of an almost uninterrupted series of set-backs.

The Battle of Midway brought a halt to Japanese plans for further moves in the direction of New Caledonia, Fiji, and Samoa. The American invasion of Guadalcanal forced IGHQ to recognize that their main theater of operations was no longer China, but the Pacific. Later American victories in the South Pacific and the discouraging news of the surrender of Italy persuaded the Japanese High Command to constrict the strategic perimeter to establish a new "absolute sphere of national defense" (p. 73) along the line, Banda Sea to the Carolines. In response to the US Fifth Fleet's victories in the Gilberts and Marshalls and against Truk, IGHQ for the first time ordered troops to be pulled out of Manchuria and diverted southward. At about the same time, Gen Tojo, who was serving both as Premier and War Minister, donned a third hat—that of Army Chief of Staff—in an apparent effort to improve coordination between the Army and the already Army-dominated political arm of the State. The successful invasion of Saipan by the US V Amphibious Corps brought about Tojo's fall and the High Command's decision to strengthen quickly the defenses of the "Inner Perimeter Line." It also brought about a radical revision of island defense doctrine. IGHQ published the "Essentials of Island Defense" (pp. 115-116) which shifted the main line of island defense inland from the shore line to positions which would presumably offer greater protection against American naval gunfire, which was by now beginning to terrify the Japanese, even those back in Tokyo. At the same time, serious thought was first given to suicide tactics to be employed by small surface craft and aircraft against US naval vessels. McArthur's invasion of the Philippines and the near *coup de grace* administered to the Japanese Fleet in the Battle for Leyte Gulf, followed in a matter of months by the Fifth Fleet's capture of Iwo

Jima and Okinawa, put an end to all further Japanese planning except for the now desperate measures for defense of the homeland itself. Col Hayashi's fairly detailed description of these measures will be of special interest to those concerned with the question of what might have been had not Japan decided to surrender before being invaded.

In addition to much useful information about Japanese planning, Col Hayashi offers insights, which seem penetrating to this reviewer, into the nature of Japanese militarism and the military establishment. "Peculiar to the Japanese armed forces in general," he notes, "was the complete autonomy of authority inherent in the supreme command function." (p. 1) It was this characteristic, according to Hayashi, this "independence of the military's command prerogatives" under the Meiji Constitution, that first rendered impossible any effective civilian control over the military and then led to the complete ascendancy of the military over the State. This tendency, perhaps inevitable in any society, of military power to corrupt the body politic, was exaggerated in Japan by developments peculiar to that nation. The poverty of rural Japan, which was the primary source of the country's military manpower, persuaded many an Army officer that the machinery of the State should be seized and turned to radical reforms of a national-socialistic character. Hitler's spectacular success encouraged this view. Younger officers, more prone than their elders to radical political solutions at home and dangerous adventures abroad, successfully asserted themselves within the military establishment. So great was their influence, that in this most militaristic of all societies, one of the most fundamental military principles of all—that of subordination—was at times almost lost from view.

Col Hayashi makes no systematic effort to explain the causes of Japan's defeat. He attaches great importance to the superiority of American gunfire both on land and sea, and by inference to America's general superiority in raw materials, technology, machines, weapons, and all the sinews of war. He deplores—and cites several instances to prove —the rivalry between the Japanese Army and Navy, and one gets the impression that, in his opinion, if all hands had only worked together, things might have turned out better for the Japanese.

Of course the fact is that nothing the Japanese did or might have done could have fundamentally altered the course of the war—once

the United States was fully committed. Another, and higher ranking Japanese officer, Adm Yonai, saw this clearly. When asked what he considered to be the turning point of the war, he answered that the start of it was the turning point. He was right. From the Japanese point of view, it was a hopeless undertaking from the beginning.

Reviewed by Philip A. Crowl

Ed: Dr. Crowl is a co-author of the University of Princeton publication, *The U. S. Marines and Amphibious War.* Formerly with the Office of Chief of Military History, Department of the Army, he is now with the Department of State.

PEARL HARBOR TO GUADALCANAL: History of U. S. Marine Corps Operations in World War II (Vol I)

LTCOL FRANK O. HOUGH, USMCR; MAJ VERLE E. LUDWIG, USMC; and HENRY I. SHAW (Historical Branch, G-3 Division, HQMC). 439 pages, photographs, maps, bibliography and index. U. S. Government Printing Office, Washington 25, D. C. $5.00

As the Commandant states in the Foreword, "This book is the first of a projected five-volume series covering completely, and we hope definitively, the history of Marine Operations in World War II." History is often complete, often definitive and often as dry as hardtack. This book is complete, definitive, interesting and readable. I also found it inspiring.

You will too, especially when you reflect on the fact that many of the battle-proven leaders who served so well in those first bleak days of WWII are still among us—more senior now but still ready, willing and able to meet any new challenge that may arise. Yes, effective combat leadership emerges as the vital, if unwritten, ingredient to success in most of the campaigns, operations and individual battles recounted so faithfully in the book.

Actually we find much more here than blow-by-blow descriptions of our early bouts. Part I of this volume treats briefly the development of the Marine Corps' amphibious mission and lays the foundation for all 5 volumes of the operational history. Many of us who first learned and preached the amphibious gospel from *Fleet Training Publication 167* can marvel at the circumstances of its preparation: "In November 1933, all classes at the Marine Corps Schools were suspended, and, under the guidance of Colonel Ellis B. Miller, Assistant Commandant of the Schools, both the faculty and students set to work to write a manual setting forth in detail the doctrines and techniques to be followed in both training and actual operations. Under the title, *Tentative Manual for Landing Operations,* it was issued in January 1934." Not only is this accomplishment noteworthy for its speed but more significantly for its later-proven soundness. In 1941 the War Department put essentially the same manual between Army covers and published it as *Field Manual 31-5.*

One significant subject in the early doctrine later needed correction, however. This was in the area of command relationships. Originally, a Landing Force Commander found himself on an equal level with the various naval task group commanders (fire support, transport, air, etc) of the "Attack Force" but clearly subordinate *throughout the operation* to the "Attack Force" Commander. Command of the Landing Force never shifted ashore. It was just such

an arrangement that plagued Gen Vandegrift during most of the Guadalcanal campaign. Ultimately it was the Marine Corps Commandant, Gen Holcomb, who gained top-level Navy acceptance of the principle that the Landing Force Commander should be on the same command level as the naval task force commander and should have unrestricted authority over operations ashore. Holcomb's intercession with, first, Adm Halsey, then Adm Nimitz and finally Adm King in this connection is a classic example of friendly persuasion and aggressive coordination.

Speaking of command relationships, did you know that the Marine Brigade, stationed in Iceland during 1941 and early 1942, was "detached for service with the Army by order of the President?" By this awkward arrangement the Army commanding general exercised full administrative as well as operational control over the Marines. Not only did the Brigade have to adjust to the Army's administrative and disciplinary procedures, but the Commandant of the Marine Corps had to deal with the Secretary of War on all matters pertaining to the Brigade.

What were we doing in Iceland in the first place? I'll let you read the book to unravel *that* particular ball of yarn.

Garrison duty on Pacific Islands in the period preceding 7 December 1941 was arduous and dull and important. The base at Samoa was designed to help protect the routes of communication to the Southwest Pacific; bases at Johnston, Palmyra, Wake and Midway were established as outposts for the Pacific Fleet's home port at Pearl. In the period after 7 December 1941, garrison life became more hectic and the pace more feverish—particularly on Wake and Midway.

I found one US pre-war planning consideration realistic but somewhat startling: "Guam, in the center of the Japanese-held Marianas, which had long had a small Marine barracks detachment, was decisively written off in the (American) war-plan; its early capture by the Japanese was conceded." Certainly the overwhelming Japanese naval force that landed at Guam on 10 December 1941 had little difficulty in capturing the island.

Participation of the 4,500 Marines present on Oahu on 7 December 1941 is treated in as much detail as available sources permit. Very little about the defense of the island on that day is of a clear-cut nature convenient for systematic analysis. "On one point, however, there has been unanimous agreement — that the courage of the vast majority of defending troops was of a high order."

As one might expect, previously published Marine Corps monographs about Wake and Midway served as valuable sources for the compilation of the accounts of these operations in *Pearl Harbor to Guadalcanal.* The earlier monographs, however, have many more photographs and more eye-catching maps than the new volume. Budgetary limitations have no doubt affected the number of photographs and colored maps that may be used in the operational history.

One intriguing question that needles one's imagination after reading an account of the Wake battle is this: If Adm Fletcher's relief task force had made better speed, if it had not lost nearly a day refueling while enroute, if it had not been recalled when its carrier (*Saratoga*) was within 425 miles of Wake, would the story of Wake have been significantly different? A history is obviously not the place to editorialize on such a matter, but as readers we are none the less free to conjecture.

The Battle of Midway, in the opinion of many historians, was the decisive naval engagement of the Pacific War. Marine pilots and "crunchers" helped decide the issue: "At a cost of 49 Marines killed and 53 wounded, Midway had destroyed some 43 enemy aircraft (25 dive bombers and 18 Zeros) in air action, plus another 10 shot down by anti-aircraft guns."

The story of the 4th Marines and their "Life on a Bull's Eye" at Corregidor is a story of dedicated men facing impossible odds. That they endured the pounding and found the strength to exact a heavy toll from the Japanese landing force is a tribute to the 4th Marines' esprit and professionalism. "Relatively few men survived who fought in the East Sector through the night and morning of 5-6 May 1942."

Finally there is Guadalcanal: "the primer of ocean and jungle war." With the basic and fundamental lessons learned at Guadalcanal, we were well-equipped to pursue our post-graduate studies on many more islands and atolls in the Pacific. Again the authors credit a previously published Marine Corps monograph, *The Guadalcanal Campaign,* for serving as the "groundwork for the present, completely revised and much more complete, account of the battle." The authors show considerable restraint in their reporting on the early withdrawal from Guadalcanal of the carrier force and the transports. Gen Vandegrift, who had protested that early retirement of the ships would leave him in a "most alarming" position, would probably be less restrained in his handling of this topic.

Guadalcanal was "Operation Shoestring" in many respects. The present Commandant, who was 1st Mar Div logistics officer at Guadalcanal, notes that "there was never enough of anything." Actually only one commodity was plentiful: the de-

termination of the "Old Breed." This was enough to keep the shoestring from snapping.

This book is a good job and the Historical Branch, G-3 Division, HQMC, should take great pride in it. The editing is so skillful that the reader cannot detect style changes that might be expected in a book in which several authors contribute pieces. I hope the other 4 volumes come off as well.

Reviewed by LtCol Carl W. Hoffman

Ed: The reviewer wrote the official histories of Marine Corps operations on Saipan and Tinian. He is now serving with G-2 Division, HQMC.

SERVICE ETIQUETTE

RADM BRUCE McCANDLESS, USN (Ret), CAPT B. J. HARRAL, USN, and ORETHA D. SWARTZ. 365 pages, index. U. S. Naval Institute, Annapolis, Md., 1959. $5.50

Ever wonder how many and what kind of calling cards you should leave during your first formal call? Or which fork is the one for salad? Where to seat the Colonel and his lady when they come to dinner? What kind of civilian clothes a lieutenant really needs? How to make bland social conversation that won't ever get you into trouble? Whether it's manly for a midshipman to use a deodorant?

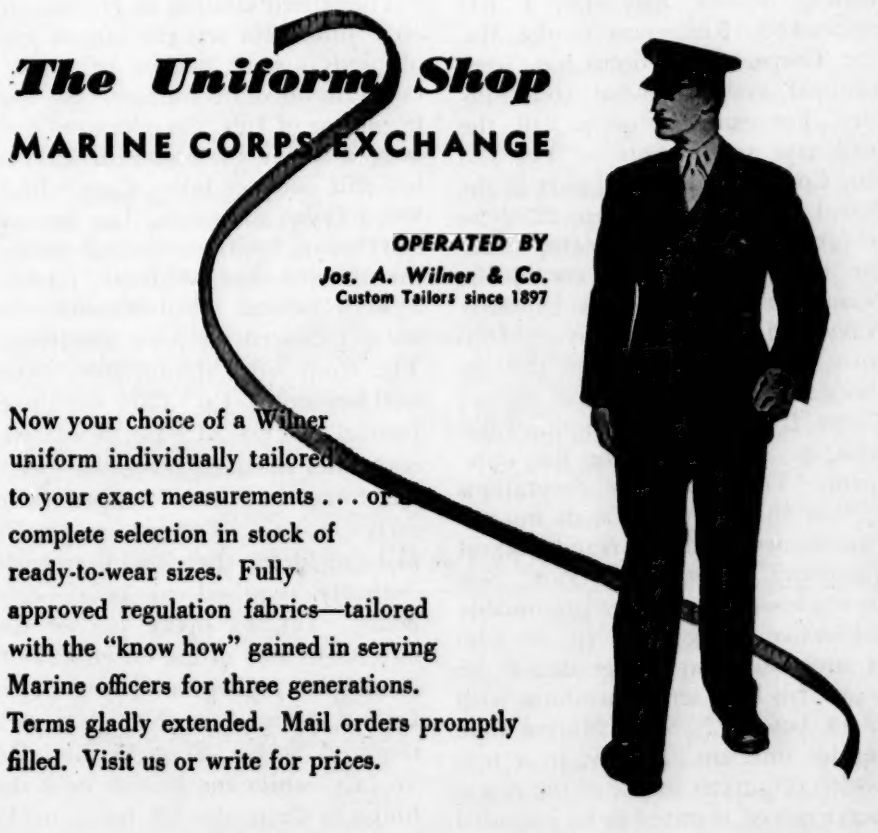
If these, or similar questions have ever bothered you, then get a copy of *Service Etiquette*, the Naval Institute's comprehensive guide to good manners for junior officers. The authors are well known to all who have been near Annapolis in recent years: Adm McCandless and Capt Harral, both of the Naval Academy staff, with a "dis-staff" assist from Oretha Swartz.

The book starts out on the somewhat disheartening but unquestionably safe assumption that many of its readers are socially innocent if not outright mannerless, thus conforming to H. L. Mencken's dictum that nobody ever lost a fortune underestimating the mental age of the average reader. While this may dismay the occasional sophisticate who browses through it, so does any other book of etiquette. The fact is, alas, this kind of a book is necessary, especially for the enlarged, semi-pro, amorphous mass of junior officers which the combination of today's national and social circumstance has injected into our unhappily civilianized military services.

In scope, *Service Etiquette* could hardly be better, and in this obviously reflects the wide and practical experience of its authors at the Naval Academy, for which the book will surely be a required text. (It wouldn't do any harm at Basic School, for that matter). Clothes, calls, social occasions, table-manners, bread-and-butter notes, service courtesies, how to be a gentleman in the presence of unmarried ladies, how to arrange a dinner table (diagrams by courtesy of Florists' Telegraph Delivery Association, a novel source of social guidance for commissioned officers of the US), even a few thoughts on one's religion, something I had never previously regarded as within the province of Emily Post.

Naturally, any such publication has its ups and downs, many of which, in the nature of etiquette, like beauty, are to be found in the eye of the beholder. For example, I especially like the tipping chart, the best thing of its kind known to me. I agree with the authors' sound and conservative views on civilian clothes (although their word, "civvies," by origin an enlisted man's term, rings poorly in what is expressly a guide for officers). The summary of basic parliamentary procedure will be welcome and well used by any officer. The advice on cocktail parties is sage and practical. The compilation of sample calling cards, type invitations, precedence-lists, and the like, is simply invaluable. Here *Service Etiquette* patently owes much to the once so jealously guarded, even though wholly unclassified, ONI handbook on social protocol. Those, like this reviewer, who have in years past tried (without success) to obtain this closely-held social vademecum from its civil servant guardian, will be thankful that at least *some* of the secrets of the Office of Naval Intelligence have at length been ventilated!

On the other hand *Service Etiquette* omits one secret, or at least a tip, which is insufficiently advertised today: the fact that fledgling Regular officers enjoy the privileges of joining both the Army and Navy Club and the Army and Navy Coun-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try Club with no expensive initiation fee, *if* they do so when just commissioned. This is one piece of advice whose lack has been bemoaned by practically every officer of field or command rank who ever came to Washington for duty (and they all do eventually).

Among the miscellanea that elicit a raised eyebrow is the highly egalitarian suggestion (p. 209) that enlisted men are introduced as "Mr." on social occasions, a thought which, according to a footnote, crept in from a civilian etiquette book; perhaps *Navy Regulations* would be a sounder guide on the use of this term. Similarly, as a member of one of the senior professions, that of arms, I was jolted to discover (p. 94) that the term, "professional people" now embraces stenographers, government clerks, golf pro's, and managers of restaurants, night-clubs, and barber-shops. As an old-time sea-going officer, I was also surprised — according to p. 270 — that Navy room-boys aboard ship seemingly no longer shine shoes; I have a few naval friends with recent command experience who would differ.

Speaking now as a Marine, after reading *Service Etiquette,* I felt overlooked. References to the Marine Corps, where occurring, were minimal and somewhat contradictory. For example, on p. 210, the book says, and I quote — "The Marine Corps is an integral part of the Naval Service." Yet, on p. 22, there is presented a uniform chart "for the convenience of officers of the Naval Service," which is expressly Navy and quoted from *Navy Uniform Regulations.* Maybe the authors should find out about *Marine Corps Uniform Regulations.* Likewise, p. 24, appears the flat statement, "The wearing of decorations . . . is in accordance with instructions issued by the Bureau of Naval Personnel." Not in *my* book. Nor in my book either is the presumably all-Service young officer (p. 41) who is encouraged, at college dances, to wear "his blue service uniform with black bow tie." Some Marine blue service uniform. Finally, in a text which originates in one of the Naval Services and is stated to be intended for all four services, it wouldn't have hurt if, on p. 105, in a list of typical "high ranking officers" (which includes CNO and the Army Chief of Staff, and reaches down to Naval District commandants and such), they had remembered that the Commandant of the Marine Corps not only wears four stars but commands one of the Naval Services to boot.

Such blemishes aside, the book stands as a well written, useful, and new contribution to meet a crying need, that of decent ordinary manners and Service social *savé* among those who elect our profession. It should unquestionably be required reading at Basic School, as well as any other place where young officers (Regular or Reserve) are trained. When the next edition comes out, however, I hope they correct the suggestion on p. 184, to the effect that CMC's office phone extension is 7683. According to my directory it is 42501.

Reviewed by Col R. D. Heinl, Jr.

Ed: Col Heinl is Chief of the U. S. Marine Mission to Haiti, as well as co-author, with Gen G. C. Thomas, of *The Marine Officer's Guide.*

THE CLAY PIGEONS OF ST. LO

GLOVER S. JOHNS, JR. 257 pages, appendix, glossary. The Military Service Publishing Co., Harrisburg, Pa. $5.00

The Allied landing in Normandy on 6 June 1944 was the largest amphibious assault yet to be undertaken in modern warfare. By the beginning of July, the operation had bogged down. The British on the left still had not taken Caen which was a D-day objective. The port of Cherbourg, badly needed to sustain the invasion, had fallen on 27 June, a week behind schedule, and was not yet cleared for port operations. The front lines should have been well beyond St. Lo. They were not. Instead, the US XIX Corps was several miles north of the town where our forces had been stopped since early June. Troops originally planned for use there had been more critically required to take Cherbourg. Yet, to break out of the lodgement area of the Cotentin Peninsula, the high ground around St. Lo and the road net through it were required. St. Lo fell on 18 July. On 27 July, while the British held the hinge at Caen, the US forces broke out of Normandy at St. Lo. Patton's Third US Army was let loose on its end run which was not stopped until it crossed the Moselle River in September.

Among the troops pinned down in front of St. Lo was the 29th US Infantry Division, a National Guard unit whose original personnel were from Maryland and Virginia. The 29th had landed over Omaha Beach on D-day and had been in action ever since. *The Clay Pigeons of St. Lo* is the story of one of the infantry battalions of the 29th Division, the 1st Bn, 115th Infantry, from the 17th of June until it entered St. Lo on 18 July. It is also the story of a young commander who had just taken over the battalion and was with it, his first combat command, for the first time. The day to day operations of 1/115 are presented through the eyes of its commander as he experienced them from his command post or wherever he happened to be at the time. It is a highly factual and accurate account of the emotions felt, of the decisions that had to be made, and of the type fighting done by our forces in the difficult hedgerow country of Normandy. Well brought out is the problem of the proper balance between the infantry assault and supporting arms fire. Many other tactical dilemmas are revealed as well as problems faced in the psychology of leadership, in staff functioning, and in logistics.

Clay Pigeons of St. Lo is written in the third person although the author was the battalion commander because, as he states in his Acknowledgments, ". . . people who fight wars up close to the enemy are not the same while they are fighting as they were before or after." The author, Colonel Glover S. Johns, Jr., USA, graduated from VMI in 1931. He led 1/115 from the time of this story until the termination of operations at the Elbe River in Germany almost 11 months later. During the later part of the Korean War, he commanded an infantry regiment. Graduating from the Army War College in 1956, he is at present Commandant of Cadets and PMST at VMI. His fine account of "The Indestructible Clay Pigeons" is a valuable and lively contribution to the history of small unit actions in WWII.

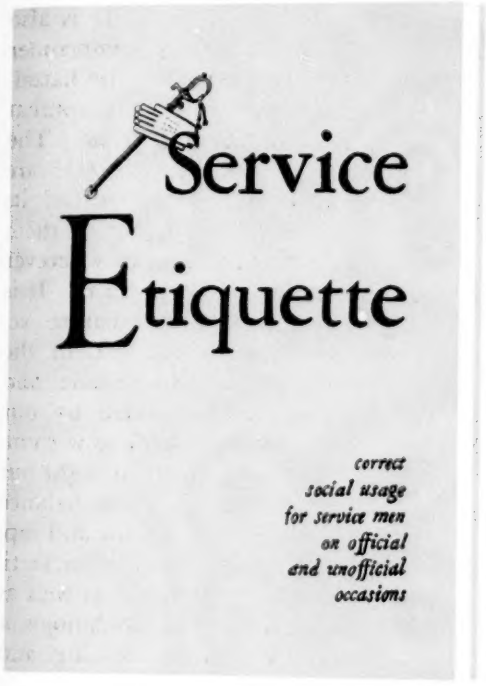
Reviewed by LtCol C. T. Earnest, USA

Ed: LtCol Earnest is CONARC Liaison Officer at MCLFDC, Quantico, Va.

Service Etiquette.....

By Rear Admiral Bruce McCandless, U.S.N. (Ret.),
Captain Brooks J. Harral, U.S.N., Oretha D. Swartz

Foreword By Vice Admiral Robert B. Pirie, U.S.N.



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